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PRESIDENTIAL ADDRESS

J. Edward Hedges

As all of us are aware, higher education in general and education for business in particular are and have been for several years under critical review. In public pronouncements the importance of insurance as a subject of study has been questioned or, what may be even more damaging, has been ignored in recommendations of essential subject matter.[1] Even the value of education for business as presently constituted has been widely questioned. As yet there is no concerted effort to "reorganize" insurance out of the curriculum of business administration or economics. In spite of a general increase in the number and variety of insurance courses in recent years, some teachers and prospective teachers of insurance feel that this may yet happen.

In the face of criticism, some of us, teachers and administrators alike, have been, to borrow an expression from the T.V. "thriller," "running scared." In an attempt to court favor or to mollify the critics, programs have been hastily put together and initiated. This has been done sometimes, I fear, without first determining the goals to be achieved or relating the program to the special situation of the institution itself. Not only is it possible that much of value in the curriculum will be discarded and lost, but often the effect on faculty is disastrous. In some instances, I am told, teachers of national and even international reputation no longer find a place for their own textbooks in revised curricula. If this meant merely the rewriting of the textbooks it might be all to the good. But what I believe to be bad is that by forcing teachers to become "generalists," the possibilities of advancing knowledge through specialization may be lost.[2]

Lest I be accused of being reactionary, let me hasten to say that far from being opposed to change, I believe it is essential to the survival of education for business at the college level and of insurance as a significant part of such education. But what kind of change?

The answer to this question, I believe, lies in what we conceive to be the objectives—the goals—of education for business, and the means by which these goals are to be attained.[3] While the emphasis

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[1] See, for example, Robert A. Gordon and James E. Howell, *Higher Education for Business* (New York: Columbia University Press, 1959); and Frank C. Pierson and Others, *The Education of the American Businessman* (New York: McGraw-Hill Book Co., Inc. 1959).

[2] The term "generalist" is used here in the inter-disciplinary sense, suggesting the teachers' loss of identification with a separate and distinct body of knowledge and with those who "profess" it. On the other hand, there is no intent to imply that narrow specialization is desirable. An insurance teacher should be something of a "generalist" so far as insurance is concerned.

[3] Outstanding business educators have addressed themselves to this subject at the last two annual meetings of our Association. Reference is made to their papers as they appear in *The Jour-*

may vary from institution to institution, I suggest the following as being generally typical: Based upon a sound foundation of broad liberal education,[4] to prepare students for (1) the intelligent exercise of management responsibilities, and, in some instances, (2) the carrying on of specialized business activities; i.e., to prepare students to become managers or specialists. Assuming these to be our goals, what are the means by which we may attain them? Or, stated somewhat differently, is there an existing or emerging science or discipline of business administration within which we must carry out our educational function? Is there some unifying characteristic, technique or point of view which serves as a common denominator of education for business?

No one, I believe, would argue with the proposition that economics is the "mother science" of business administration. In fact, much of what we usually regard as the subject matter of business administration, including insurance, is taught in economics departments, both in liberal arts colleges and in schools of business. And until recently, with the growth of Doctor of Business Administration programs following World War II, most teachers of business subjects received their advanced academic training in economics. Many who will teach such subjects in the future are now receiving and will continue to receive their graduate training in economics with the Ph.D. as the terminal degree. The principal exception has been and may continue to be accounting, for which, in some institutions the C.P.A. is regarded as the terminal degree.

If, therefore, there is anything unique or distinctive in the business administration field which might qualify the field as a "discipline," it lies in the adaptation of economics that has taken place, plus whatever may have been added. The adaptation, it seems to me, has consisted primarily in the adoption of micro-economic theory or the economics of the firm, looked at subjectively, from the point of view of profit-maximization. But to this, much, which I should call "institutional economics," has been added. For years a great deal of the subject matter taught in the business administration curriculum was almost purely descriptive. This was true even of the functional areas of production, marketing and finance included in the so-called core. (Quantitative, environmental and communications studies, of course, have been and are a part of the subject matter included but these are not germane to this discussion.) But in the last decade, more or less, certain significant changes have occurred. These functional areas of production, marketing and finance have begun to incorporate more and more of the micro-economics approach. The field of management theory has assumed greater importance, bringing with it a new action-orientation and an emphasis on quantitative decision-making. More recently, greater attention is being paid to the behavioral sciences with the goal of a better understanding of the human factor in business.

This brief sketch, to the extent that it is accurate, suggests something of the conceptual framework within which we work. Whether it constitutes a science, a discipline, a pseudo-discipline, or what have you, I leave to you. This much seems clear: present emphasis appears, primarily, to

nal of Insurance ("Suggestions Regarding Education for Business," by Arthur M. Weimer. Vol. XXVI, no. 2, Summer, 1959, pp. 7-11; and "Insurance in the Collegiate Curriculum," by Leslie J. Buchan, Vol. XXVII, no. 1, March, 1960, pp. 43-51). These papers, as well as those appearing in the *Journal* (*Ibid.*, Vol. XXVII, no. 2, September, 1960, pp. 67-70) under the heading of "A Forum on the Place of Insurance in the Collegiate Curriculum," deal with the relationship of insurance to education for business.

[4] A part of which may certainly be found in the business curriculum itself! See "Insurance, a Segment of Liberal Business Education," by Walter Williams, *The Journal of Insurance*, Vol. XXVII, no. 2, September, 1960, pp. 43-47.

contemplate preparation for management responsibilities. Areas of work which do not contribute directly to this goal, accordingly, are cast in not too favorable a light. This is particularly true if methods and techniques are not shared in common with those subjects which make up the main stream of education for business. For those areas of work which are not regarded as an essential part of management training there remains, then, only the function of training specialists, to the extent time is available and student interest exists. It is even conceivable that the training of specialists may pass entirely from the scene, at least at the undergraduate level. It seems imperative, therefore, that we as insurance teachers improve in our ability to contribute to the primary objective of education for business management. Perhaps even more important, we need to make a convincing case for the essential character of our contribution. In this we are not alone. We share the problem with such fields as real estate, transportation, business law and others.

I'm afraid I have painted a dark picture. I hope the situation is really much brighter—and perhaps it is. But this much is clear: We are at a serious disadvantage in reaching large numbers of students as compared with those fields contributing directly to the core work, both from the standpoint of the "captive" market offered by the required courses and from the standpoint of majors recruited from those courses. (Witness, for example the large numbers of majors in most schools of business in marketing, management, and accounting.) The use of student time must be strongly supported in the current educational environment, a condition almost non-existent in the academic tempo of, say, a couple of generations ago. The educational content, the mental discipline, the institutional importance, frequently are not enough. Even the personal utility[5] may not be persuasive when we are in competition with fields of study considered to contribute directly to the primary objective.

What steps should we take to improve, if you will, our "competitive" position? Let us assume that we shall continue to be concerned, certainly, with our contribution to the preparation of business managers, and, possibly, with the preparation of specialists in insurance. The facts of life being what they are, the introductory course of perhaps only a single semester must serve both purposes. What sort of course would be widely recommended and elected, perhaps even be required, as an essential part of the general program of education for business? I believe it should:

1. Identify and differentiate between the two types of risks, (1) those deliberately assumed as a part of the price to be paid for the opportunity to seek a profit through business enterprise, and (2) those inevitably encountered as a result of owning property and conducting business operations;

2. Concentrating on the latter, outline in some detail the possible methods of handling;

3. Applying traditional marginal utility theory plus techniques adapted from statistics, mathematics, game theory, engineering, behavioral science and law, analyze risk to determine the most effective methods to be employed in particular situations.

4. Examine the insurance principles, practices and coverages applicable to

[5] As insurance teachers, I'm sure most of us would insist that instruction in insurance is well justified by importance as a phase of personal financial planning. Yet it might be argued that such considerations are beyond the scope of the business administration program, much as it could be argued that a school of medicine should not spend valuable class time teaching prospective doctors how to protect their own health. On the other hand, the program recently inaugurated at Northwestern University which stresses equally "education for living" along with "education to make a living," suggests a contrary view.

those risks lending themselves to treatment by the insurance method.

5. Secure student involvement by applying a problem-solving or decision-making approach to selected problems or cases simulating actual business situations.

(Of course this is a big order, and, if carried out completely, far beyond the scope of a one-semester course. But even within this limited scope, I believe the approach and the method can be profitably employed.)

The general business student as well as those specializing in other business administration sub-areas may find additional work attractive and potentially useful. To the extent there is such a demand, the approach outlined above might be extended to specific insurance areas such as property insurance and group insurance and pensions. A single course devoted to selected problems or two or more courses devoted to particular lines of insurance might be visualized. This approach, incidentally, might not be inappropriate for insurance "majors." On the other hand, it may turn out that courses of the conventional, institutional, or descriptive types may prove more acceptable for "majors" and at the same time adequately serve others. Details of this phase of the program are beyond the scope of this paper.

However, even for those courses which continue pretty much in the conventional mold I am convinced that considerable reorientation is required. Precisely what direction this will take I am not prepared to predict. This rests in the hands of those who will conceive and teach the insurance courses of tomorrow and the day after tomorrow—the college and university teachers of insurance. But to do this job intelligently and effectively I believe there are certain things we should be doing now. These include:

1. Fundamental research in the theory of risk and insurance, from the point of view of the risk-bearing function and appropriate ways of accomplishing it under varying conditions.

Research in this area presently is being done under the aegis of the Society of C.P.C.U. by a group headed by Mr. Henry Duke. Several of our members are participating in this research, a report on which is scheduled for the winter issue of the *Annals* of the Society.

2. Re-studying contemporary economic theory with a view to discovering new insights into risk and insurance.[6]

3. Studying the mathematical theory of games and decisions with a view to discovering new techniques for analyzing reaction to risk and to potential applications in the conduct of insurance operations.

In this area it is to be hoped that those among us who have special aptitudes and training in mathematics will point the way. Of these I know we have many. Two of our members, Professors Hedges and Greene, last year attended the Mathematics Institute at Harvard. I am sure many of us are anxious to learn some of their conclusions. An article by another of our members, Professor C. Arthur Williams, Jr., appearing in the December 1960 issue of *The Journal of Insurance*, should prove enlightening. But the rest of us should participate in these explorations.[7] From only brief study on my own part, I can visualize important applications in management decisions of whether to insure or assume certain risks, in company reinsurance decisions, rate-making, liability claim negotiations and others. Those who have not explored this field, I am sure, will be surprised at how readily one acquires a "feel" for the concepts, almost intuitively, without particular manipulative skills in math-

[6] In this area Irving Pfeffer, *Insurance and Economic Theory* (Homewood, Illinois: Richard D. Irwin, 1956) is "required" reading.

[7] R. Duncan Luce and Howard Raiffa, *Games and Decisions* (New York: John Wiley and Sons, Inc., 1957) is suggested as an introduction to the subject.

ematics. If this is hard to believe, take it from one whose mathematical skills have atrophied from nearly thirty-five years of neglect!

4. Study the behavioral sciences, not only to understand their main conclusions regarding human behavior, but also to discover and perhaps to borrow their approaches and techniques of analysis.

5. Develop case and problem materials and, to the extent feasible, recast our teaching in a problem-solving, decision-making mold. Apropos of this point, articles by two of our members, Professors Mehr and Ratcliffe, in the July, 1958 issue of *The Journal of Insurance* will prove instructive.

In acting upon these suggestions, I believe we should study to understand and to borrow, to adapt and to apply. If we don't, with the growing tendency to require of our students more mathematics, physical science, and behavioral science, much of the possible benefit to them will be lost. For example, if we rely for our knowledge of psychology on our recollections from a sophomore course taken a generation or so ago—and fail to apply even that—how can we hope to convince our students that their own study of the field is essential? They are likely to react as students do now, when they complete the requirements, say, in English Composition—"thank goodness I'm through with that!" and promptly forget it. Even worse, how can we give them the preparation they will need for dealing with the problems they will face in the years ahead?

As I am well aware, much of what I am suggesting already is being done. For confirmation we need only scan the tables of contents of the last few issues of *The Journal of Insurance* or take a fast look at the program of these meetings. In a sense I suppose I am really suggesting nothing new. What I am urging is merely an intensification of present efforts, more widespread participation, and incorporation of the results in our teaching and writing, even to the point of radically revising and extending our text materials.

Out of this suggested approach I believe will emerge a new and revitalized discipline of insurance, closely integrated with both economic theory and the emerging science of business administration. But in addition it will be something unique in itself in the principles and practices to be employed in dealing with risk. True, in this rejuvenation we will draw for facts and techniques upon the whole of knowledge, but more particularly upon economics, law, mathematics and statistics, psychology and the other behavioral sciences. The indictment that we are merely borrowing from others and introducing nothing new and unique does not disturb me. Even our mother science did not become a discipline in its own right until it began borrowing heavily from mathematics, the source of the marginal analysis. But in the process of borrowing, adapting, integrating, and incorporating into our institutional framework, new approaches and techniques can be made uniquely our own. This is all I would ask.

In concluding this discussion, let me say what perhaps I should have said much earlier, namely, that we have been considering here only one small facet of a vastly complex problem. Even with that qualification, some of you may not agree with anything I have said. Some, I am sure, will take violent issue. I hope a few may agree with at least a part. But be that as it may, if these remarks should spark some thought and discussion, this half-hour will have been well spent.

POTENTIAL INNOVATIONS IN HEALTH INSURANCE

O. D. DICKERSON

"A prophet is not without honour, save in his own country."
Matthew XII:57.

The author hopes that he is far enough afield so that a modicum of honor may attach to his prognostications if not to his person. Indeed, many readers may feel that he is "way out in left field." It is not without considerable fear and trepidation that he attempts prognostication in a field so dynamic as that of health insurance. Most prognosticators of past decades have erred greatly in the direction of conservatism since only by the wildest stretches of imagination could the tremendous development of health insurance have been predicted. The author intends, at all costs, to avoid *that* error.

The story of the growth of voluntary health insurance has been told many times. The number of persons protected by hospital insurance increased from 12,312,000 in 1940 to 76,639,000 in 1950 to 127,896,000 at the end of 1959. The growth of surgical and regular medical expense coverage has been slower, but the total number of persons protected by such coverage is steadily gaining on the number with hospital protection. The number with surgical coverage has increased from 5,350,000 to 54,156,000 to 116,944,000 in the same years and the number with regular medical coverage has increased from 3,000,000 to 21,589,000 to 82,615,000. By the end of 1959, 72 per cent of the U.S. civilian population had hospital expense protection, 66 per cent had surgical protection and 46 per cent had regular medical protection.

Major medical and comprehensive medical expense insurance was unheard of a dozen years ago. In 1951, 108,000 persons had coverage of this type. This had grown to 5,241,000 in 1955 and 21,850,000 at the end of 1959. Of these persons, 6,453,000 had comprehensive coverage and were included in the totals for the basic coverage above. The extent of duplication of major medical coverage with basic coverage for the remaining 15,397,000 persons with major medical coverage is not known. However, the proportion probably is quite high.

The number of persons with some form of income protection coverage, including formal plans for paid sick leave, increased from 26,229,000 in 1946 to 37,793,000 in 1950 and 43,169,000 in 1959. In all these areas, premiums and benefits have increased even more rapidly than the numbers of persons covered because of improved policy coverage and increases in utilization and costs of medical services.[1]

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[1] Figures for years prior to 1959 are from Health Insurance Institute, *Source Book of Health Insurance Data*, New York: The Institute,

Recent Tendencies

The first step in evaluating the future of voluntary health insurance is to extrapolate some of the trends presently evident. Some of the outstanding developments of the past decade include the development of major medical and comprehensive coverages, coverage of nursing and convalescent home care, extension of insurance to sub-standard lives, coverage of congenital disease, drugs and dental expenses. Almost all medical expenses are now covered by the comprehensive policies, subject to a small deductible and a percentage participation clause (often called, misleadingly, "coinsurance"). Similarly, such coverage is available through major medical contracts of insurance companies and many "extended" benefit contracts offered by Blue Cross, Blue Shield and similar insurers. Insuring some of these expenses on other than a major medical or comprehensive basis presents many problems. However, there has been considerable exploration of some of these areas such as nursing and home care,[2] drugs,[3] dental care,[4] vision care,[5] and diagnostic services and preventive medicine.[6] It seems safe to predict further study and eventual broader insurance coverage of costs of these types. Such coverage will probably make use of the deductible principle to exclude small routine costs and discourage overutilization. Similarly the number of persons with major medical and comprehensive coverage will probably continue to grow at a rapid rate. The growth rate of these types of coverage was 25.8 per cent per year in 1959. Comprehensive coverage will replace much of the basic hospital-surgical-medical coverage and should soon be available to individual and family purchasers as well as on a group basis. Individual coverage is expanding more rapidly than group at present and this differential will probably persist for some time.

Another reasonably safe prognostication is the continued improvement of disability income coverages. While over 60 per cent of the labor force had some type of disability income protection at the end of 1959, over half of these persons had group coverage only, and most group policies covered only the first 26 weeks of disability. Group contracts providing benefits of more than two years are still quite rare. Most of those that provide the broad coverage of disability produced by both accidental injury and disease, with benefits payable if necessary out to (say) age 65, are subject to very strict underwriting and offered only to a relatively narrow market. Many include provisions for an offset of or integration with OASDI disability benefits. This represents a fertile market for the private insurance industry and it will probably be cultivated intensively in the coming decade. However, the cultivation in the past was clearly not intensive enough to pre-empt the field and eliminate the demand for government action. Apparently the author's warning of two years ago came too late.[7] Nonetheless, the OASDI

1959. 1959 data are from Health Insurance Council, *The Extent of Voluntary Health Insurance Coverage in the United States as of December 31, 1959*, New York: The Council, 1960.

[2] Follmann, Joseph F., Jr. *Health Insurance and Nursing and Home Care*, New York: Health Insurance Association of America, 1959.

[3] Follmann, Joseph F., Jr. *Drugs, Their Cost and Health Insurance*. New York: Health Insurance Association of America, 1960.

[4] Follmann, Joseph F., Jr., "Insuring Dental Care Costs," *The Journal of the American Dental Association*, 56:194 (February, 1958).

[5] Follmann, Joseph F., Jr., "Health Insurance and Vision Care," *Michigan Optometrist*, September and October, 1959.

[6] Anderson, Odin W. and Rosen, George. *An Examination of the Concept of Preventive Medicine*. New York: Health Information Foundation, 1960 (Research Series 12).

[7] "If the pressure for extension of social insurance is to be resisted, the private insurance business must find means to cover more of the population, especially for the longer disabilities.

benefits provide a base on which to build a sound insurance program and there still is plenty of room for improved group coverages particularly in lengthened maximum benefit durations. Longer benefit policies are available on the individual market, even on a non-cancellable, guaranteed renewable basis with guaranteed premiums. The number of companies offering such contracts with maximum sickness benefits greater than 10 years has increased from one in 1948 to about 30 at present.[8] Certainly many more companies will offer such policies on the fully non-cancellable basis and many more on quasi-noncancellable and commercial bases.

A less desirable current development which it is hoped and believed represents a transitory phenomenon, is the inclusion of disability income benefits in automobile policies. Like the medical expense benefits in such policies, these are payable only for disability produced by an automobile accident and are on a fully cancellable basis. The danger is that such low cost and low quality coverage will mislead the insured into thinking he has broad coverage. To the extent that he does have such broad coverage, the supplementary auto policy benefits can lead to overinsurance. The medical expense benefits are more clearly justifiable since they provide benefits for persons other than the named insured. However, to the extent that they cover members of the insured family they may provide deliberate overinsurance, and in any event may result in double payment in practice. An attempt to control this has been made in the new "Special" and "Package" policies which include provisions to make the medical payments benefits excess over any other insurance available and to require that such payments be accepted as a mitigation or reduction of potential liability damages. This is a step in the proper direction but such provisions still are missing from the basic and family auto policies which cover the majority of insureds. Perhaps an "agreement of guiding principles" is needed in this area!

It is likely that contract provisions will continue to be improved with elimination of most exclusions and frills. The range from the worst to the best contracts today is much greater than that from the best to practical perfection. Much could still be done to improve terminology and make contract language clearer, but as long as courts look on cases involving policy interpretation as a contest in which they will go to any lengths to redress the balance in favor of the underdog insured, there are strong practical limits on this process.

Another area where substantial advances may be expected in the next decade is in the coverage of impaired risks—particularly those with physical impairments. Already large numbers of these persons have obtained coverage on a group, association group or guaranteed issue basis and more will do so in the future. Moreover, insurers have been studying the problem intensively and more and more are experimenting with providing full coverage on an individual basis at an increased premium, rather than resorting to the traditional waiver clause. Where waivers are used, they are often

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Progress toward population coverage is more pronounced than toward extension of maximum durations. However, there is a clear tendency to lengthen benefit periods and some insurers now offer a contract to certain types of employers which provides benefits until age sixty-five. Further developments in this direction will prove the best possible answer to proponents of further governmental action in the field."—Dickerson, O. D. *Health Insurance.* Homewood, Ill.: Richard D. Irwin, Inc., 1959, p. 285.

[8] Dickerson, O. D., "Insurance Against Long Term Disability," *The Journal of the American Society of Chartered Life Underwriters,* Vol. XXIV, No. 4 (Fall, 1960), p. 345. A couple of companies were inadvertently omitted from the tabulation and a couple have offered such policies for the first time since this article was written.

phrased more narrowly and rationally than in the past. However, any exclusion impairs the insured's security, and broad coverage is preferable if it can be provided at a reasonable cost. There seems to be no reason why fair and reasonable premium rates cannot be determined for all impairments except those where severe loss in the near future is a practical certainty.

Moreover, as the industry improves its marketing efforts, more and more of the population will be reached, sold and insured before they have the opportunity to become uninsurable. Provisions for conversion of children's coverage under family policies could do much to solve this problem. The additional cost for the conversion privilege would be very low if spread over all purchasers of family coverage. Of course, the policy to which conversion was made would have to be guaranteed renewable to make the privilege really worthwhile. Similarly, the extension of conversion rights for both employees and dependents under group medical expense policies will contribute towards solving the problem of the impaired risk.

Further growth of medical expense coverage for older persons can be expected. This is now being made available by a variety of methods which have been described many times in the past year.[9] However, much of the growth has been in the area of basic coverages, which is the very area where the proponents of government action are staking out their claims. Regardless of the political decisions of the next few years, there will still be a great need and market for major medical type coverage for older persons, and the industry may be expected to respond to the demand. Similarly, marketing efforts will be directed more effectively to the rural market. Much progress has been made by insurance companies and to a lesser extent the Blues in developing this market. Association group coverages for organizations like Granges have contributed to broadening enrollment and the experience is generally favorable. This is a marketing problem, not an underwriting problem, and should not be difficult to solve.

A concomitant development that can be expected to continue is that an ever increasing proportion of business will be issued on a non-cancellable, guaranteed renewable or quasi-guaranteed renewable basis. As shown above, this is necessary if the conversion privilege under group and family policies is to be meaningful. For public relations purposes if for no other, cancellation and non-renewal should be kept to an absolute minimum. It is doubtful if major medical and comprehensive policies without internal limits by category of expense can be issued safely without reserving the right to increase future premiums for broad classes of insureds. To do so would be to insure against future inflation, which is a risk that meets few of the characteristics of insurability. Indeed, if one takes a long-term view, it is not a risk but an absolute certainty.

A final prediction regarding the extension of present movements is that a solution will be found to the growing problem of overutilization and duplication of benefits. This is an easy prediction, since a solution *must* be found if health insurance is not to be priced out of the market. The problem of duplication of coverage is easily solved: all that is required is concerted action by insurers to provide effective other insurance clauses in all policies. In disability income policies, benefits should be limited to the carrier's pro rata share of (say) 75 per cent of earned income net after business expenses,

[9] See, *e.g.*: Health Insurance Institute, *Health Insurance After 65*, New York: The Institute, 1960; Follmann, Joseph F., Jr., "A Challenge to Industry and Insurance", *The Insurance Law Journal*, No. 443, December, 1959, p. 747.

or of 90 per cent to 100 per cent of earned income net after business expenses and income taxes. Of course, this would require action by all or almost all insurers, not just a few, and state policy provision laws would have to be changed to permit the use of such clauses.

The control of unnecessary utilization of medical facilities, extended disability and inflated fees is more difficult. Other insurance clauses prorating to less than 100 per cent of incurred costs, to employ the percentage participation principle, would help by taking the profit out of poor health—at least for the patient. However, more than policy limitations is required—the cooperation of purveyors of medical care and of the insuring public must be obtained. This will require intensive and continuing efforts on the part of all concerned.[10] Another present tendency that will continue to develop more intensively is that towards coordinated programming of life and health insurance benefits and the growing use of health insurance for business purposes. Some of the current needs for policies in these areas and the future potentials will be described below.

The Role of Government in Health Insurance

The future of the health insurance business, like that of any other business, depends on the degree to which the government pre-empts the field. Since there has been so much written on this topic in the last year or so, this paper will be limited to a few observations. First, the current proposals for basic hospital and surgical insurance for OASDI beneficiaries over age 65 have become so intertwined with political considerations that it is likely that a decision will be reached on an emotional rather than a rational basis. Rationally, the need cannot be established. Private health insurance against these types of basic cost is available to anyone who wants it and can pay for it. Public assistance programs provide a means of making health benefits available to all those who can't pay for them, if their state government wants to make the provision. If neither the persons themselves nor their state governments wants to take action, for what reason and by what right should the national government compel them to do so? Incidentally, for several years, the public assistance program has permitted states to purchase private health insurance for assistance recipients or to provide them with funds to pay premiums themselves. The writer knows of no state which is doing this at present, although the Colorado program is a step in the proper direction.[11] This is a state fund which engages the state Blue Cross and Blue Shield organizations as administrative agents. This still leaves fifty real hot prospects for an enterprising salesman of group insurance!

Rational arguments aside, as they might as well be, the Kennedy administration is reported to have the Forand type proposals high on its "new frontier" agenda. The result in the coming session of Congress will depend on the solidity of the conservative coalition of Republicans and Southern Democrats, each of which groups has been thanking God for the other's existence for many years—especially since 1958. Perhaps someday these will merge into a national conservative party and the apparently inexorable progress towards a Marxian synthesis of the irreconcilable goals of freedom and security will cease.

The public assistance program was broadened and extended to the "medically indigent" by the 1960 amendments to the Social Security Act, as is well known. The

[10] See Dickerson, O. D., "The Problem of Overutilization in Health Insurance", *The Journal of Insurance*, Vol. XXVI, No. 1 (Spring 1959), p. 65 for a full discussion.

[11] Shermack, A. Paul, "Colorado's Old Age Pension Medical Plan", *Rocky Mountain Medical Journal*, January 1960.

arguments against government action through OASDI relate to the lack of a "need", of costs and the principal of compulsion. They were strong a year ago; they are stronger now. Coverage of aged beneficiaries would just be the first step towards coverage of the entire population on a compulsory basis.

What is not so generally recognized is that the same amendments removed the lower limit of age fifty for disability income benefits. It is surprising how little attention this change received in the press, since it was certainly more profound than the public assistance amendments about which all the furor developed. Now, the only minimum age for disability benefits is that at which twenty quarters of coverage and fully insured status can be obtained and the latter is made at least one third easier.[12] The extension of the disability income provisions is a perfect example of the camel-tent principle as applied to social insurance. Starting with the disability freeze (of insured status and average monthly wage) in 1954, there were added in rapid succession disability income at age fifty; survivor's and retirement dependents benefits for disabled children even over age 18; benefits for dependent wives and children of disabled workers; and, finally, the elimination of the age fifty requirement. Somewhere along the way, the requirement for currently insured status was dropped. This is precisely the pattern that is likely to be followed with medical care benefits once that proverbial tent flap is raised.

The next movement to liberalize the disability income provisions will be either to liberalize coverage requirements, perhaps by dropping the requirement of twenty quarters of coverage, or to liberalize the definition of disability which now requires a prognosis of permanence. If the experience of the life insurance industry with disability riders is any indication, and there is every reason to believe that it is, the effect of the latter on benefit costs and tax rates could be extreme and perhaps disastrous. It is far from inconceivable that the workers of the future may tire of paying the tax rates which will be necessary to provide all these benefits for the non-workers. This is true especially when it is recognized that the current and recent "bargains" for newly covered groups, including almost all present beneficiaries, will mean that all future generations will have to pay more in taxes (including the employer's share) than the actuarial value of their benefit coverage. Private insurance can price itself out of the market; social insurance can only price itself out of existence.

In somewhat similar vein, Osler[13] has pointed out that salesmen, especially insurance salesmen, can sell themselves out of a market. When salesmanship is so effective that a product is considered a necessity by the public, the need for salesmanship as such disappears. The public begins to shop for convenience and price. This phenomenon has produced the supermarket and discount house and has supported group and social insurance. In automobile insurance it has led to the success of the exclusive agency companies, often miscalled "direct writers". If this be the general pattern which the course of events takes, we may expect the basic medical-hospital insurance market, and for that matter the automobile insurance market, to be taken over by either government or mass-production cut-rate insurers of some type. In either case, there would be little need for salesmen (agents or "underwriters") to sell these basic coverages. The future of the insurance agent would be as an expert

[12] The requirement now is one third of the quarters between the starting and the closing date instead of one half.

[13] Osler, Robert W., *Man in the Middle—1959 Mid-Year Management Program*, General Agents & Managers Conference (Washington, D.C., 1959), pp. 11.

in programming, estate planning, business insurance and employee benefit plans. The potential developments in health insurance for such purposes are discussed below.

Dickinson[14] holds out a small note of hope. He points out that the movement for security (at the price of freedom, of course) has been associated on a worldwide basis with the progressive aging of the voting population as a concomitant of the increasing span of life. However, the high birth rates of recent years have reversed this tendency and the increase in the proportion of older voters (i.e. over age 50) is slowing down and will soon turn into a decrease. He predicts this for Australia in 1961 and the United States in 1970. These predictions are rather firm, since the new voters through 1981 have already been born. As the percentage of older voters declines, the movement for security at any price may also weaken or even be reversed. Thus, all we have to do is hold out for the next ten years! As a matter of fact, holding out for the next four would help a great deal!

Penultimately, it may be pointed out that government action in the health insurance field does not necessarily preclude continued participation of private voluntary insurers in the market. As pointed out above, public assistance funds may be used to buy private insurance. Similarly, a program could include a competitive state fund to provide voluntary insurance to those whom the private insurers could not or would not cover or who preferred to deal with a paternalistic government. If we can have government and private enterprise competing in a non-compulsory market in the electric power business, we can have it in the insurance business. Another approach which would utilize private insurers would be to apply the social insurance principle of compulsion but permit the insurance to be placed with any qualifying private carrier. A competing government fund is a possible, but not necessary, concomitant of such an arrangement. This is the approach of workmen's compensation, the cash sickness laws in three of the four states which have such laws, and of national health insurance in many European countries. Even if a government monopoly takes over the basic hospital field, there is still room for private insurance in providing supplementary benefits on something like a major medical basis. Finally, even a complete national health plan with cradle to grave coverage like that of Great Britain leaves some room for private insurance. As a matter of fact, the growth of voluntary health insurance in Great Britain since 1948 has been substantial.[15]

A final point in regard to public programs is that, in at least one way, social insurance may be better for the private insurance business than public assistance. The latter, being on a needs basis, provides little incentive for the purchase of private insurance, since, up to the public assistance level, insurance benefits would just reduce the need and the corresponding assistance benefit. On the other hand, social insurance, with benefits payable as a matter of right, provides a base on which a complete insurance program can be built. There are those who feel that OASDI, for example, actually stimulated the sale of private life insurance. The same pattern could conceivably develop in health insurance. It has developed already in disability income, although few realize it.

[14] Dickinson, Frank G., "The 'Younging' of Electorates", *The Journal of the American Medical Association*, Vol. 169 (March 1, 1958), p. 1051.

[15] Follmann, Joseph F., Jr. *The Growth of Voluntary Health Insurance in Great Britain*. New York: Health Insurance Association of America, 1958.

Coverages Desirable Currently

The probable extensions of present trends and some of the possibilities of governmental action are discussed above. Beyond this, there seem to be a number of types of coverage which are necessary or desirable in the present market and which probably can be provided in the present state of knowledge. All of these are, in the author's opinion, salable, and for many there is already an active or latent demand. In the medical care field, the ultimate has almost been reached on a group basis. What is needed is the concomitant development on the individual and family basis. The ideal coverage, from the standpoint of the insured (or agent), would be a comprehensive medical policy, guaranteed renewable for life, with a $50 deductible and 15 per cent participation by the insured, with an upper limit of $15,000 or more. At age 65, the insured would have the option of converting to a paid-up policy with an aggregate limit. This would cover the husband, wife and children with the option of conversion to an individual policy of the same type on termination of the status as family member. Almost every one of the features of such a policy is now being written—all that is needed is to combine them at an adequate rate and start selling. Short of this ultimate, any steps in the same direction will be welcome. Even the upper limit probably is not necessary. Unlimited medical benefits are provided in workmen's compensation in 36 states and under the federal acts, yet this is still considered an insurable risk. However, this will probably require some experimenting and conditioning. Incidentally, these compensation medical benefits are usually subject to neither a deductible nor percentage participation.

In regard to disability income coverages, there are even more opportunities for profitable innovation. In programming disability income benefits, the underwriter is handicapped by a very restricted choice of benefit durations and waiting periods.[16] This makes it quite difficult to fit together the kind of coordinated program that can be built up with life insurance settlement options and family income benefits. What is needed is a choice of benefit durations by one-year intervals all the way out to insured's age 65, and similarly a choice of durations until fixed future ages, by one-year intervals to age 65. Such contracts should be available on non-cancellable, guaranteed renewable, quasi-guaranteed renewable and commercial bases at appropriate premium rates to attract the widest market.

Another immediate demand exists for a mortgage disability income policy with benefit amount and duration tailored to the future duration of mortgage payments, with choice of benefit periods by one-year intervals from one to thirty years. Such a policy, as an alternate, might provide that if disability continued, (say) five years, it would be presumed permanent and a lump sum would be paid to the mortgagee to liquidate the then outstanding balance. Ideally, this should be combined with decreasing term mortgage life insurance. This however, would require some changes in state laws.

Another problem which deserves some attention is that of disability income after retirement. Most present disability income policies provide benefits, at best, only to age 65. Disability income after then can be obtained by adding waiver of premium benefits to endowment and retirement income life contracts in sufficient amount to provide the necessary income, but this is quite expensive. Of

[16] See: Dickerson, O. D., *Health Insurance, op. cit.*; Osler, Robert W., "Programming Health Insurance" *in* Gregg, Davis W., ed., *Life and Health Insurance Handbook* (Homewood, Ill.: Richard D. Irwin, Inc., 1959). (Also published in *CLU Journal.*)

course, OASDI income will continue after 65 but that meets only a part of the need. Most people depend for part of their retirement income on private pension plans. These usually provide very low benefits if disability occurs early in life. It should be possible to design policies to provide benefits to make up the deficiency in the pension resulting from disability before retirement age.

Another possibility would be to extend disability benefits beyond age 65, perhaps for a maximum of five years, provided the insured was still actively at work at the onset of disability. For disability beginning after age 65, the contract could be on a guaranteed renewable rather than non-cancellable basis. Of course, a straight-life benefit contract is possible, if the problem of retirement passing off as disability can be controlled. In lieu of control, it might be possible for the premium to be loaded to provide for this likely contingency. The next step is to add a death benefit and not require actual disability or retirement. Then we are back to the retirement income policy with disability income rider! An opposite approach is an endowment benefit at age 65, reduced by any claim payments before that date. At least one company now issues such a contract.

Another need which exists and is recognized at present is for a disability educational policy. Such a contract could provide income benefits during the college age period (four to eight years, as agreed) for a child if his father was disabled during this period, or even better, if he were disabled during the college years, or the four years immediately preceding. In the latter case, each year of father's disability would entitle the child to only 6 months of college benefits. Again, such a coverage should be combined with life insurance to provide the agreed income benefits (or the balance of them) if the father dies before the child reaches college-leaving age. The income benefits should be payable to the child, regardless of whether he actually goes to college. Since this would be a term coverage, there would be no need for cash values.

In the area of business insurance, two needs stand out. One is for an overhead expense policy with benefit duration longer than the customary year or two and written on a non-cancellable basis. Another is for a disability policy to accompany a partnership or corporation buy-out agreement with adequate benefit amounts and durations. Currently, if the principal has enough personal disability income insurance, participation limits will prevent his obtaining adequate business buy-out insurance in addition. Such a policy might well provide a lump sum settlement to accomplish the final buy-out if disability lasts (say) five years, when it would be presumed permanent. Of course, this also should be combined with life insurance, laws permitting.

Finally, for both personal and business purposes, a long-term disability income policy can be designed to fill the social security gap, which now exists in disability insurance just as in life insurance. It could pay benefits of an amount sufficient to make up for the loss of the wife's OASDI benefit when the youngest child reaches 18 and then terminate when the wife reaches age 65. Or, it could replace both the child's and wife's benefit until the wife reaches 65, and the child's only thereafter. Even in the latter case, the maximum benefit would be only about $125 per month, but it surely would make programming easier. Of course, premiums would depend on the ages of husband, wife, and child or children. This could produce quite a rate book!

Further Out

In addition to the suggestions above, the combination of life and health cov-

erages in a single contract presents fruitful opportunities for innovation. Just by combining existing policies an interesting, broad, marketable, although perhaps unreadable policy could be developed. The basic coverage would be permanent life insurance on the father sufficient to provide a reasonable retirement income. This would be supplemented with a disability income rider in reasonable amount, with waiver, of course. On top of this could be added a family income rider to take care of the child-raising period and a family rider to provide limited life coverage on the wife and children. If this is combined with comprehensive family medical expense coverage as described above, or a combination of major medical with basic coverages, almost complete family protection could be provided against life and health risks. Educational and mortgage coverage could be made available by rider. Throw in an additional insurance option and a survivorship annuity for the mother-in-law and the package will be complete. All these components already exist. All that is necessary is to combine them into a coordinated package with add-on options and the complete family package program for life, health and retirement will be born. When the rapid developments of the past decade are considered, it seems only a matter of time until the complete family package is created.

The next step, obviously, is to amend a few more state laws, and combine this package with a Homeowners VI or D or whatever the broadest such policy is called, and throw in a family automobile policy for good measure. Then the complete insurance program for the typical middle class family, about 75 per cent of the individual and family market, will be available in one beautiful unreadable contract. The only thing left is to add optional coverages of small business property and liability exposures by endorsement and to figure out some way of providing unemployment benefits to supplement those available from the states and certain employer-union funds. Then the ultimate will have been reached. Or will it?

Way Out

Even the "Comprehensive Family Program" described above is not the ultima Thule of family insurance protection. After all, it is made up of existing components. In a decade or two, it will probably be made obsolete by the "Income Maintaince Plan" (known briefly as IMP). By the turn of the century this may well evolve into the "Insured Family Budget"; and in another century or so, inflation will have progressed to the point where everyone will be a millionaire, so things of this sort will no longer be necessary.

Keeping to the present century, the Income Maintainance Plan provides complete life, health, property and liability protection (except for business exposures which may be added at extra premium) in one simple comprehensive contract. Its basic unit is "net earned income," which is defined as the three-year moving average income earned by the named insured from personal activities (not including wife's earnings, investment income, capital gains, inheritances, gifts, etc.). For years when the named insured is a full-time high school student, this is taken as $3,000 per year if the actual is less, and as $4,000 for periods in military service or as a full-time college student. Periods of covered disability do not enter into the average. The insurer reserves the right to inspect and audit the insured's federal income tax return and the income amount as accepted by the Internal Revenue Commissioner is conclusive for both benefit and premium purposes.

The contract provides the following benefits:

Death: 50 per cent of net earned income to primary beneficiary (wife if living) plus 10 per cent for each additional dependent to maximum of 90 per cent of net earned income after taxes. Wife's income is for life, 20 years certain; dependent parents or parents-in-law for life; child's benefit until age 21.

Disability and Retirement: Same, except that life benefit is payable to named insured. At his death, above provisions come in. Maximum for insured and dependents is 90 per cent of NEI after taxes. Age 65 for retirement.

Medical Expense: Comprehensive as described earlier in this article ($50 deductible; 85 per cent reimbursement) to limit per disability of 300 per cent of NEI (or perhaps with no upper limit as experience matures).

Property Damage: Real and Personal, All Risk Basis, maximum per occurrence of 500 per cent of NEI. Additional coverage available at extra premium.

Liability: Comprehensive including autos, boats, swimming pools, etc. Maximum per occurrence— 100 times NEI, or no upper limit if social conditions and loss experience permit.

Unemployment: 50 per cent of NEI first year, decreasing by 5 per cent each year to zero after ten years. Retirement before age 65 shall be treated as unemployment, but benefit is leveled on a basis reflecting 5 per cent interest. Alternatively, actuarially reduced benefits may be made available for voluntary early retirement.

BENEFIT OFFSET: Benefits shall be excess over all other insurance (social, private or mixed) or any public or employer-provided income maintenance program of what kind soever. Premiums shall be reduced to allow for the effect of declared underlying coverages. When underlying coverage terminates, insured must notify company and pay additional premium, or benefit reduction continues.

PREMIUMS:

Named Insured—8% of NEI, annually
Wife —4%
} less offset for underlying coverages.
Each additional dependent—½% if wife living; otherwise 1%
(These are approximate; actuarial calculations are not complete.)
Plus extras for business expense and excess property coverage.

Note that as the insured's income increases, his benefits and premiums increase proportionately. Incidentally, this contract is guaranteed renewable and not cancellable by either party under any circumstances whatsoever. Possible variants are many. The two most likely would be to use a period longer than three years for determining the average, and/or to base premiums and benefits on net earned income after the income taxes attributable (on an average, not marginal basis) to such income. Part of the retirement income could be on a variable annuity basis. Premiums would be waived at death, retirement, disability or unemployment. For the latter two, they would resume on recovery or re-employment. Commissions would be level for the duration of premium payments except for a high first-year commission.

Discounting obstacles of legislative and personal inertia, such a contract could be designed, rated and sold today. The data for the actuarial calculations are available. Actually, the calculation is simple compared to what the Social Security actuaries are faced with. Such a contract seems to be the ultimate in personal insurance protection, but it is by no means the ultimate in family financial security. This involves many other aspects. After all, even today we find insurers or their corporate running-mates in the personal loan, banking, mutual fund and similar businesses. Combining all these, plus a few other familiar components and a few not so familiar, leads us to the Insured Family Budget.

The IFB plan combines the insurance protection of the Income Maintenance Plan with a complete family borrowing, investment and budgeting operation. It involves a non-cancellable lifetime contract between the insured and the insurer, whereby all the insured's financial affairs are handled for him. In addition to the insurance coverages, which represent a combination and extension of present concepts, the plan makes use of several other existing techniques. These include

the device of having pay checks sent direct to the bank and the bill-the-bank plan, whereby the customer has a universal credit card which permits him to charge all purchases directly to his bank account. This is combined with an automatic plan for extending credit similar to that now offered by several banks. Other components include investment advisory, security custodian, personal trust and mortgage banking services. These are combined into one coordinated, integrated plan for complete family financial management.

The basic idea is that most men's income streams are shaped quite differently from their pattern of expenditures. In the early years of a man's working life, his income will be low, but his expenditures will, or should, be lower still. This is the first accumulation period. Then when he marries and has children his expenditures will increase and exceed his income. This will use up his past savings and require him to go into debt, particularly if he purchases a home. After the children are grown up, expenditures drop, while income continues to increase, leading to the second accumulation period. Finally, after retirement, income ceases and expenditures continue.[17] The idea of the Insured Family Budget plan is to permit the adjustment of the present value of expenditures to the present value of the future income stream, freeing the insured customer from the budgetary pressure of trying to balance expenses against income on a one-month or even one-year basis. This combines loan and investment services so that sometimes the insured will have a net credit balance and sometimes a net debit balance. Interest is credited or charged as appropriate.

In application, the plan involves a projection of the insured's probable future net earned income and a computation of its present value. Then a computation of normal expenditures is made and adjusted to this on a present value basis. The insurer advises the insured as to permissible expenditure levels on an annual basis with supplementary advices sent monthly. Consultation services are available at any time to determine questions relative to major expenditures. Of course the projection of the income stream will have to be revised periodically to take account of changes in the insured's earnings level and potential and changes in the value of the dollar. During the active life period, the plan operates as a lending and investment agency as well as a bank to handle current accounts.

As long as the insured keeps within the limits set, he may spend the allowable amount, which may be more or less than current income, as he sees fit, charging all expenditures except petty cash to the insurer. Cash withdrawals can be handled by drawing a check as necessary. When the insured suffers a property or liability loss, this is handled by the insurer as in present practice except that cash need not change hands. The insured simply is authorized to incur the replacement expenditure in addition to his regular authorization. When the insured dies, retires, becomes disabled or unemployed, the life and health insurance portion of the plan come into operation and his expenditure level, with appropriate reductions, can be maintained out of the pool of insurance funds to which he has been contributing throughout his working life. Medical expenses are simply charged directly to the insurer and met out of the current expenditure allocation if they represent routine budgetable expenses, and out of the insurance fund if they represent large fortuitous losses.

The main problem of such a plan would be that of moral hazard. The insured has

[17] See: Bossard, James H. S., "The Concept of the Family Cycle", *The Journal of the American Society of Chartered Life Underwriters*, Vol. XIV (Fall 1960), p. 310 for an extended discussion of this concept.

the opportunity to abuse the plan by unnecessary claims under the disability and unemployment provisions, and by excessive expenditures. However, if the plan is not cancellable by the insured, the insurer will have ultimate control of the purse strings. Its advances to the insured will be secured by the mortgage on his house, by liens on his investments (in the insurers' custody), by the cash values of the insurance and retirement funds, and by an irrevocable absolute assignment of all earnings of the insured, his wife and his minor children. Unplanned additional increments of funds, such as by inheritance, can be added to the plan on an optional basis if it shows a credit balance. Their inclusion should be compulsory, however, whenever the plan has a debit balance.

Conclusion

Whether the insurance industry will combine with other financial institutions to take over such a complete "Big Brother" role remains to be seen. However, such a complete financial service seems to be what many individuals and families need. Aside from the bookkeeping conveniences, such services are today provided by some trustees of well-funded trusts. The main innovation of the Insured Family Budget is the use of future income instead of existing assets as the main funding medium. However, life and health insurers have been insuring future income for a hundred years or more. Thus they are qualified uniquely to perform the complete function. If state laws had not forced the separation of the insurance business from the banking and trust business many decades ago, such a complete service might have developed by the present time.

The author hopes that these predictions, prognostications, prophecies and pipe dreams will serve as a stimulus to further thought and innovation on the part of all concerned with health, life, property and liability insurance and family financial security in the broadest sense. The implementation of these ideas and the realization of these potentials will depend on posterity. But after all, posterity is just around the corner!

POTENTIAL INNOVATIONS IN HEALTH INSURANCE

E. J. FAULKNER

Prophecy is always dangerous but never more so than in the presence of keen and sophisticated people who are well-informed on the subject of speculation. Your speaker cannot presume to the objectivity sometimes conferred by academic detachment, having been engaged in the management of an health insurer during the past 25 years. This has been the exciting period of greatest growth for health insurance in America. It has been a time when nearly everyone has become interested in or critical of health insurance because of our national preoccupation with health and the costs of health care.

No line of insurance surpasses health insurance in volatility and flexibility. Because health insurance in the past has been largely free of onerous rate regulation and the strait-jacket of statutory contract forms, it has been possible for health insurers to experiment widely, seeking to develop better coverages and more efficient methods. This experimentation has been stimulated and sustained by the open, free, and keen competition that is a foremost characteristic of the business. This competition is not confined to the some 800 insurance companies writing health insurance but extends to the service plan insurers and the many miscellaneous plans. This competition is not only the best regulator of the price the public pays for health insurance but assures that when a better contract or more effective method is developed by one insurer, it is emulated quickly and made available throughout the whole market.

In this atmosphere of creative competition, there is no dearth of ideas for the future improvement of health insurance. Probably none of the ideas discussed here has been overlooked by eager underwriters and agents in their search for ways to build their insurers by serving the public better. One of the more difficult responsibilities of the health insurance executive is to separate the occasional valuable kernel of the good idea from the considerable chaff of visionary suggestions without discouraging imaginative forward-looking thought.

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Political and Economic Environment

Speculation about potential innovations in health insurance must be premised upon assumptions concerning the economic, political and social environment in which health insurers will be working in the future. Health insurance has grown to great stature and usefulness in America because ours has been a private enterprise system in which the individual person has enjoyed a high degree of freedom, has been permitted to exercise a maximum of personal initiative, and has been expected

to assume the major responsibility for his own welfare. Insofar as the people in this country substitute the philosophy of collectivism, by whatever name they choose to call it, for our traditional individualism, the opportunities of private health insurers will be diminished.

There are those who mistakenly believe that the establishment of social health-benefit schemes has a stimulating effect on private health insurance. They contend that individuals can build more adequate programs of insurance on a basic floor of protection provided by a government plan. For the short term, this contention may seem valid but over the long pull it is meretricious because, among other things, it ignores the inherent characteristic of social benefit schemes to expand, burgeon, and metastasize. The history of these schemes is that, because of political pressures, their expansion is relentless until the point of totality is reached.

Competition between private health insurers and compulsory plans tends to be a one-sided contest. There is still much wisdom to the ancient saying that one cannot compete successfully with the sovereign. Especially in health insurance, to the extent that government enters the field, government pre-empts it. Unlike life insurance, a benefit provided by one plan cannot be duplicated safely or economically for the same individual by another plan. The seeming ability of private health insurers to survive in Great Britain to this time, despite its National Health Plan, is probably a transitory phenomenon and tells us nothing of the vast curtailment of their opportunities. In Canada, the once substantial and promising hospital insurance business has been obliterated by the Dominion's National Hospital Plan.

When the 87th Congress convenes a few days hence, we are told that the new administration will push for the enactment of legislation to impose on the Social Security system the responsibility of providing enumerated health care benefits for certain of our aged citizens. Despite the rejection of this scheme by the final session of the 86th Congress and several previous Congresses, Mr. Kennedy and his associates will use their power over patronage and any other persuasive devices available to them, to secure the adoption of this and the other proposals to which they are pledged. Even with such formidible support, passage of Forand-type legislation in the near future is by no means a foregone conclusion. Mr. Kennedy cannot point to a popular mandate for this legislation. Rather, as more Americans become informed of the implications of the Kennedy-Forand-Morse type proposals, opposition to them grows. The political complexion of Congress is scarcely more favorable to these bills than it was last August.

Meanwhile, private health insurers continue their notable progress in providing adequate protection for the aged segment of our population, and the several states have available the additional Federal funds appropriated by the Kerr-Mills Bill (P.L. 86-778) to finance the health care of the indigent or potentially "medically-indigent" aged.

It is beginning to dawn on many Americans that the sedulously cultivated myth that government can somehow do it cheaper and better through social security benefit schemes, is just another expensive canard. Education through the pocketbook can be expected to work its wonders as new entrants into the Social Security system and their employers realize that together they will pay in taxes about 170 per cent of the value of the benefits to be received by the new entrants. For these and other reasons, we are not without hope that further government intrusion can be contained and the provision of health care and the financing of its cost maintained as an area of primarily private endeavor and responsibility.

If we assume no substantial pre-emp-

tion of the field by government, the future of private health insurance is bright indeed. More people today are insured by private health insurers than are protected by any other line of insurance. The volume of business done by private health insurers, measured by written premiums, has been increasing at the annual rate of 10 per cent for the past few years. Demographers anticipate that the population of our country will double in the next four decades. With this expanding market potential made even better by the growing popular understanding of the desirability of health insurance and made effective by the consistent increases in the discretionary spending power of most families, health insurers should have no dearth of prospective buyers.

Continuing Trends

Future contract development, I believe, will be along the lines that have become marked in the past few years. The trend to guaranteed renewability and non-cancellability will continue. The broad coverage provided by today's better health insurance contracts will become the usual and accepted standard. Eliminations from coverage and restrictions on benefit payment will be minimized further. It is not an exaggeration to say that insurers today will issue nearly any kind of health insurance benefit for which there is a legitimate need and a sufficient demand. When benefit amounts or durations are less than adequate it is not because of insurer unwillingness to issue but because of buyer unwillingness to purchase sufficient coverage. This observation is applicable equally to individual and group contracts.

It is to be anticipated that as the buyer becomes more discriminating and the agent more professional, average levels of coverage will approach adequacy. There will be less emphasis on the large and spectacular benefit that appeals to the speculative instinct and a more nearly uniform attention to proper insurance of real risk. Contracts that provide benefits only when the insured is hospitalized will give way to those that provide reimbursement for the costs of health care irrespective of whether care is given in the hospital, the physician's office, or the patient's home. A legitimate criticism of basic hospital insurance is that it makes no provision for the costs of outpatient care and thus tends to overutilization of relatively expensive hospital facilities. Low deductible, unallocated medical expense reimbursement contracts, sometimes called comprehensive medical expense insurance, have much to recommend them, not only because they usually provide adequate coverage but because they do not impose financial obstacles on patient or physician in the free determination of the proper course of treatment.

Role of the Agent

I do not foresee the early elimination of the agent or any pronounced lessening of his importance to the distributive processes of health insurance. It should not be inferred from widespread acceptance of health insurance, that most people do not have to be sought out and sold by an aggressive salesman. It is a paradox of human nature that, though it is to their advantage to insure, the majority place a higher priority of desirability on expenditures that lead to immediate consumer enjoyment and, inherently finding the contemplation of death and disability distasteful, tend to defer protection against the consequences of these omnipresent hazards.

The insuring public has learned that it has the right to expect a professional service from the health insurance salesman, not only when the application is taken but for so long as the contract remains in force. Insurers have learned that distribution of that protection through poorly selected and illy-trained agents is wastefully ex-

pensive and prolific of unsatisfactory public relations. Thus both from within and without the business, the pressures are in the direction of carefully selected, well trained, professionally motivated and permanently established agents. An adequate renewal commission interest in in-force business provides the agent with a continuing incentive to serve his clients as they should be served.

Not only the insurers, but their cooperative associations and educational institutions such as the American College of Life Underwriters have contributed considerably to the knowledge and skill of the health insurance agent. Recognizing the indivisibility of the human life value, the American College now incorporates health insurance as a subject of equal importance to life insurance in its examination fields. The Health Insurance Association of America, the Life Underwriter Training Council, the Disability Insurance Training Council, the Life Office Management Association and similar cooperative efforts are giving new emphasis to health insurance. These endeavors lead us to believe that health insurance will be sold and serviced in an increasingly satisfactory manner. Only a start has been made toward programming health insurance as a vital part of the insurance portfolio of an individual or business.

The Health Care Complex

The future offers many opportunities for better understanding and more effective cooperation in the public interest among the several elements of the American health care complex—the doctors, the hospitals, and the insurers. Each element of this complex is dependent upon the other elements. What affects one, affects all. To foster understanding and cooperation, the insurance companies established and support the Health Insurance Council. It has done a great deal to help the American system function more smoothly by implementing hospital admission plans, devising simplified uniform claim forms, and, with local medical societies, by encouraging insurance review committees and similar cooperative mechanisms.

In a business characterized by its genius for coupling fierce competition for public patronage with cooperation among competitors in matters where cooperation is salutary and wholesome, it is disconcerting that one type of insurer has recently developed a seemingly intense allergy to competition. Last month at the mid-year clinical session of the American Medical Association, a representative of the American Hospital Association and presumably of A.H.A.-sponsored Blue Cross is reported to have rejected a proposal to participate in a Congress of all elements of the private health care complex designed to find ways of serving the public better. The bald statement that, "We will not sit down with them. We do not believe in commercial health insurance," raises serious questions of motivation. It is to be hoped that the statement quoted is not broadly representative of our fine voluntary general hospitals, many of which derive a significantly greater share of their revenues, directly or indirectly, from the insurance companies than they do from the service plans. I cannot but believe that in the councils of the hospitals and among the leaders of the service plans, a more broad-gauge view will prevail.

I believe that there will be a recognition that a chosen-instrument policy in the financing of health care costs can only lead to nationalization of the insurance function and socialization of the hospitals and the practice of medicine. Competition among all types of private health insurers has given the business its strength and vitality. Under the conditions that prevailed in 1935, the community rating process of the service plans could operate satisfactorily. In the competitive climate of 1960, selection by the better risks

against the insurer that clings to the flat community rate, is a fact of life. To maintain their position some service plans are turning to experience rating and, properly I think, more and more of them will follow suit. There is adequate opportunity for all kinds of private health insurers to serve and prosper in this business, but none should seek or be permitted special privilege or unique advantage. In the American tradition of fair play, the ground rules should be the same for all.

Costs

In the furor over the proper role of government in financing health care costs, much has been made of the rising costs of care. Statistics have been bandied about to prove whatever point the writer or speaker espoused. The burden of much of this is that the costs of health care are rising rapidly to levels beyond the reach of people to pay or insurers to insure. Usually omitted from these dissertations are such facts as that discretionary spending power has risen faster than health care costs. Over the last 20 years, not just the period since 1949, health care costs have increased less than the average of all living costs. Furthermore, no weight is given in the various price indices to the enormous recent improvement in the quality of health care. Barring severe inflation, which can be avoided if the country has responsible leadership, health care costs will continue to be insurable.

Better hospital management, better patient scheduling and the introduction of progressive patient care can do much to mitigate rising hospital costs. The mysticism associated with medical pricing can be abated and a greater stability achieved in physicians' charges by the adoption of relative value schedules and application thereto of an appropriate conversion factor selected by each physician, according to his training, skill, experience, and the location and nature of his practice.

Loss Prevention

As answers are found to the problems inherent in indemnifying loss arising from illness and injury, as they are being found within the framework of our private enterprise structure, more of the attention of insurers can be devoted to the challenging field of health conservation and loss prevention. Probably employment of all of the educational processes offers the best avenue to significant accomplishment in this direction. Physicians are by no means in agreement as to the efficacy of periodic physical examinations in the prevention of disability, but experimentation with financing their cost—a budgeting, not an insurance function—might be worthwhile. Conceivably the time could come when health insurers may find their greatest service in the area of health conservation.

Private health insurance has demonstrated that it has the capacity to provide for the vast majority of Americans a satisfactory measure of protection against the financial consequences of illness and injury. The breadth of its opportunities to serve in years that lie ahead will be determined largely by the outcome of the struggle between individualism and collectivism. Because I have great confidence in the sound judgment of our people, I believe private enterprise will not only prevail in our country but will prosper. That will make possible a prodigious future for private health insurers.

APPLICATION OF THE THEORY OF MARKETING TANGIBLE GOODS TO THE MARKETING OF INSURANCE

VICTOR GERDES

Insurance is marketed side by side with myriads of other services and goods. Present-day insurance companies successfully distribute many types of policies through a growing number and variety of sales outlets. Producers try to effect a maximum of satisfaction of consumer wants by aggressively seeking to maximize sales. This contrasts with the marketing practices of insurance companies in decades past. During the early period of insurance growth in the United States, companies often showed little interest in attaining a broader distribution of insurance. Policy design failed to fit most needs of insurance users. Companies maintained meager sales forces, often poorly compensated and poorly trained, and allocated only nominal sums to infrequent advertising in media of limited circulation. Lack of general public knowledge of insurance was widespread.

It took time to develop today's full time sales staffs of aggressive producers placing strong emphasis on a person to person type of insurance selling, especially designed to meet the particular needs of different insurance prospects. Further advances in sales methods, product changes, packaging, and servicing are even now taking place. A growing realization that person to person selling on a solicitation basis is a high cost operation, is bringing insurance companies into imitation of some of the marketing practices of non-insurance vendors. Evidence of this trend appears as more insurance is being sold in department stores, furrier shops, airports, bus stations, real estate offices, shopping centers, among other locations, and also through vending machines with, for example, an announcement of plans to place such machines on subway platforms.

The insurance company's product, the insurance policy contract, is found in the same market area as other intangibles, and also tangibles, and the very same dollar of the consumer or ultimate saver is often sought by sellers of such services and goods. Those concerned with the insurance marketing functions in the companies are showing an emerging, albeit delayed, awareness that much can be learned from those who market non-insurance services and goods, tangible and intangible. There is also something to be gained from studying that growing literature which includes insurance matters as a part of another complex. For example, why not study the marketing implications in the abundance of sources and uses data and analyses forthcoming almost daily, as we seek to augment our knowledge about the role of insurance

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companies in financial intermediation as they compete with other fund commanding institutions. It is here that strategies and plans of intangible goods competitors are especially relevant to executive decision making in marketing.

For the moment, let attention be confined to the product or intermediary claim in the marketing process, the significance of other factors such as training of sales forces, advertising, sales outlets, sales presentation, etc., be ignored. The product, the intermediary claim supplied by the insurance companies, sometimes appears to take on characteristics of a variety limited only by the imagination. The utilities provided by insurance to the user are numerous and, as viewed by the user of the service, are sometimes difficult to understand. The characteristics of the intermediary claims supplied by non-insurance financial intermediaries are often fewer, far less complex, and more easily understood by the holder.

The insurance intermediary claim (policy) may supply a far greater number and variety of satisfactions to the consumer than the non-insurance intermediary claim (e.g., savings and loan share or savings bank passbook). Yet, the non-insurance intermediary claim may be supplemented with a utility not found in the insurance policy, even though such feature may be of low or nominal cost to the supplier, e.g., insurance against the failure of the intermediary to honor its obligations under the claim when the occasion arises. Consider how much publicity of an unfavorable nature, destructive to the carefully nursed public relations image being carved by the insurers could have been prevented had similar provisions insulated Texas insurance policyholders against insurer contractual defaults. Consider the potential insurance dollars that would have moved into different insurance companies had such protection been available.

Those in insurance are aware of the savings elements in life insurance policies, elements often vastly superior, certainly the equal, of comparable ones offered in contracts or intermediary claims of non-insurance financial institutions. Yet, the popular practice is for an insurance advertiser largely to de-emphasize these features and to stress those elements (mainly insurance) also commonly found in policies of other insurance companies. Are there not many other product differences and similarities among and between competing types of institutions? Are not the possibilities of application of non-insurance financial institution marketing practices to non-life insurance even more promising than in the life insurance area?

In carrying out his rationing process, in making decisions on dollar allocation, how important is it from a marketing viewpoint that the spender might also seek utilities which arise out of the command of goods called tangibles, others called intangibles? Is one service or good demanded because it is tangible, another because it is not, or is each desired because it satisfies wants, provides the user with some measure of anticipated satisfaction? Should one expect each utility carrying product, call it service, call it tangible good, call it intangible good, call it anything, to be distributed in an absolutely unique manner, manifesting no similarities with the distribution of other products? Or, what similarities does it have and should it possess? And why? Might not an inversion of the subject be offered? How far have we come in developing a theory of the marketing of either tangible goods or insurance?

Answers to these questions are important and not always easy to find. In the following papers, the writers have not only gone far in providing acceptable answers, but they also lead the careful reader to ask even more questions. This is proof enough that the papers are worthy of serious attention.

APPLICATION OF THE THEORY OF MARKETING TANGIBLE GOODS TO THE MARKETING OF INSURANCE

WARREN N. CORDELL

If in the future, historians concern themselves with scientific and business developments of our era, it will be pointed out as a period of rapid expansion of ideas with greater application of information and tools to solve problems. Much of this advancement will be traced to the borrowing of ideas, tools, and information from highly diverse fields.

Marketing research practitioners tend to be problem solvers and as such pay little attention to the disciplines categorizing fields from which various ideas or tools are borrowed. They draw upon all the available knowledge, with little concern as to whether the principle or technique comes from marketing, statistics, mathematics, science, economics, psychology, or sociology. They see no boundary lines on knowledge nor any reason to operate like police chasing a speeder and giving up just because the speeder crosses a state line.

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For example, people in this field see no reason to draw a sharp line, or any line at all, between marketing of tangible products and the marketing of intangible services. While they are vitally concerned with unique characteristics of the product being sold, they are just as interested in recognizing differences between tangible products as they are in recognizing whether the product is tangible or intangible.

Intangible Nature of Purchases

In fact, some of the great progress in marketing and advertising stems from the rather fundamental realization that, in fact, purchasers are seeking satisfactions and that in this sense all purchases are intangible.

If the person buying a tangible product is seeking intangible satisfactions, why should the seller confine himself to just selling an "automobile" when the buyer is also seeking pleasures from convenient transportation, pride of ownership, or a status symbol? Why not "sell" the consumer all he is seeking? "Eating pleasure" and convenience can then be marketed as well as food, beauty along with cosmetics, relaxation and enjoyment with beverages, health or well-being with drugs.

Taking this principle one step further, aggressive marketers draw upon associated satisfactions by attaching the pleasure or satisfaction from the product with major goals or satisfactions. Instead of selling toothpaste, they sell social success from beautiful teeth and clean breath.

Instead of marketing just hair tonic, they sell social acceptance from attractive hair.

In this environment in the marketing of tangible products, it would be difficult to justify distinguishing sharply between marketing of tangible and intangible products. Whether the housewife buys a home permanent wave kit or secures her permanent at the beauty parlor, she is seeking the satisfactions of beautiful hair and social acceptance. The wave kit is no more important in this transaction than the printed policy forms used to culminate the sale of insurance.

Features of Insurance Marketing

In drawing upon the marketing experience in the field of tangible consumer products in order to improve the marketing of insurance, important differences between insurance and other products or services cannot be ignored. Historical patterns, restrictions, and conditions present in the insurance industry must be dealt with. Insurance marketing operations must cope with: (1) governmental regulation; (2) historical conservatism; (3) complexity of transaction; (4) inclination for internal analysis instead of consumer research.

In seeking to interpret recent developments in the field of distribution and their possible implications to the insurance business, it becomes important to recognize salient differences between insurance, other services, durable and non-durable goods. These differences can greatly influence the applicability of certain developments to the field of insurance.

The following table summarizes fundamental difference between insurance and other product or service fields, which affect their sale and distribution. This summary reminds us that insurance is dis-

TABLE 1

COMPARISON OF INSURANCE CHARACTERISTICS WITH THOSE OF NON-DURABLE AND DURABLE GOODS AND SERVICES

	Non-Durable Goods	*Consumer Durable Goods*	*Consumer Services*	*Insurance*
1. Nature of Product	Tangible	Tangible	*Intangible*	*Intangible*
2. Frequency of Purchase	High	Low	High or Low	Low
3. Unit Expenditure	Low	High	Low	High
4. Satisfaction				
(a) To purchaser or consumer	Direct	Direct	Direct	*Indirect*
(b) When	Immediately	Immediately	Immediately	*Future*
5. Purchaser's knowledge of product and its advantages	High	High	High	*Low*
6. Current utilization of advertising	High	High	High	*Low*
7. Distribution Cost	Low	Medium	*High*	*High*
8. Contribution to Social Status	High	High	High	*Low*
9. Importance of legal controls	Minor	Minor	Minor	*Major*
10. Importance of product inventory levels and costs	Minor	Major	*Nil*	*Nil*
11. Ability or opportunity of consumers to appraise quality of product	High	High	Fair	*Poor*

tinctly different in many ways and that these difference will need to be kept in mind. Changes possible and beneficial for selling tangible low cost items purchased frequently, may not be applicable or may require considerable modification to be of value in the sale of high priced, low purchase frequency intangibles. As can be seen, tangibility is only one of many product differences that need to be kept in mind in appraising marketing operations.

Like the artist who claims to read critical reviews in his limousine on his way to deposit money in the bank, the insurance industry could answer suggestions for future improvement by pointing to past achievements. Certainly, the insurance companies have many problems, but as they say in Japan, many of them are "splendid" troubles, usually involving how to maintain a high rate of growth or what to do with all their money.

No proper marketing analysis, appraisal, or comment on marketing of insurance should fail to recognize fully the eminent success already achieved by the insurance industry. Any economic analysis of financial holdings would quiet strong criticism of insurance operations. Historical analysis of insurance sales operations probably would bring out the fact that insurance companies have, in the past, drawn upon principles which might be suggested here, and have pioneered successful new marketing practices.

Suggested Marketing Approaches

In suggesting that insurance companies draw upon the experience of successful marketing approaches in the field of tangible consumer products, their successful operations are not being ignored but rather is the emphasis upon the need for: (1) increasing the degree to which these new marketing ideas are utilized; (2) use of more formal marketing plans; (3) improvement in planning for changing marketing conditions and opportunities.

Much of the success of any industry must come from the basic demand for the products or services offered. The insurance industry has had outstanding success in operating effectively to provide major basic social needs, thereby assuring its important role in our economy. This industry has also been at the head of groups pioneering new management tools and methods, i.e., data processing machines and computers. There is every reason to believe that astute insurance management will, despite a late start, make great use of marketing research, and as this powerful and important industry draws more fully upon improved marketing methods and concepts, will achieve even greater success in the future.

Trends toward adoption of successful marketing and advertising principles, pioneered by tangible product manufacturers, may be observed in the current operations of the more aggressive and leading insurance companies.

Since these marketing principles are based upon basic human characteristics and desires common to the purchase of both insurance and tangible products, it would be surprising to find them any less successful in the field of insurance.

To determine the marketing approaches likely to be of greatest value in the insurance field would require much careful marketing research, but there are a few areas which, on first examination, appear to offer great potential.

(1) *Use of Consumer-Oriented Research.* By the very nature of their operations, insurance companies have tended to confine their research to internal analyses. Research at the consumer level would provide a better understanding of:

a) the consumer,

b) the consumer's needs and desires,
c) the buying transaction from the consumer point of view,
d) the consumer's image of insurance and insurance companies,
e) consumer's goals and satisfactions served by insurance.

Such information should help greatly in providing guidance for management in:

a) establishing better sales policies,
b) improving policy offerings and package design,
c) greater use of advertising,
d) selection of better advertising appeals,
e) providing more effective sales effort,
f) offering better values for consumers,
g) simplifying policies and the insurance transaction,
h) achieving better consumer understanding and appreciation of insurance and insurance objectives,
i) making the purchase of insurance easier and more convenient for the consumer.

(2) *Use of More Effective Communication with Consumer.* Insurance companies, for a variety of reasons, have tended to make very little use of advertising compared with companies in tangible product fields. There are many manufacturers of a tangible consumer product that spend more on advertising than the entire insurance industry.

With such low advertising effort in the insurance field, one might conclude that there was no need for educating or communicating with insurance policyholders. But can this be true when we frequently find that *neither* the policyholder *nor* his family:

a) know the name of the insurance company protecting them?
b) appreciate, to the degree they should, the advantages of insurance protection?
c) know just what insurance protection or coverage they have?
d) have any idea as to whether they have superior, good, or poor insurance coverage?

Greater use of mass media could result in reaching and educating consumers about insurance. Appeals could be used giving greater emphasis to immediate satisfactions from insurance protection. Husbands could be encouraged to provide better protection by educating wives and children to appreciate more fully the protection they have and need. Establishing standards of good insurance protection could lead to greater expenditures for insurance by those otherwise content with inadequate coverage. Advertising could bring out the importance to families and communities, of husbands providing good insurance protection, thereby achieving desirable "status" and respect for the purchaser of good insurance protection.

(3) *Improvement and Modernization of Insurance Distribution Methods.* Consumers' desires for lower costs and better values and their willingness to forego some of the services and do some of the purchasing work themselves have created major distribution changes in the tangible goods fields, resulting in developing in sequence: (1) chain stores offering lower prices for cash and carry customers; (2) supermarkets offering still lower prices and wider selection of items: (3) discount houses extending these principles to less frequently purchased items.

Marketers of tangible products have had to adjust to these changing distribution systems and have, in some degree, contributed to these changes. Through consumer research, product improvement,

and effective use of mass advertising, manufacturers created strong brand recognition and consumer demand for their products, resulting in more sales and wider distribution of products through channels selling at lower prices. By plowing back earnings into this 3-stage program, manufacturers created a powerful cycle for growth at a time when our economy and population were also expanding at a rapid rate.

The attractiveness of lower prices and better values has already been quite evident in the sale of many lines of insurance. Insurance companies have been examining and experimenting with lower cost distribution channels, despite the problem posed because insurance is purchased so infrequently. But there are natural channels for reducing marketing costs of insurance, and further investigation and search represent an important area of insurance marketing research. Rapid growth of group insurance programs has already shown the potentialities in this area.

Consumer-oriented research will also provide much help in the search for new channels of distribution and assist in their cultivation, in ways such as: (1) package design changes necessary to make best use of new distribution channels; (2) simplification of policies and purchase transactions; (3) selecting features and consumer appeals to develop company and brand recognition essential for effective use of mass media and impersonalized selling.

Human satisfaction served by the insurance industry should be as strong and possibly even more socially commendable than those served by many industries providing tangible products.

In the free enterprise system, given so much emphasis in our recent presidential campaign, the insurance industry plays an important role essential to the preservation of basic institutions of the home and life as we know it, as well as the economic stability of our society. We all have an important stake in how well and how efficient our systems operate, and the insurance industry should be encouraged to play its roles as effectively and efficiently as possible.

APPLICATION OF THE THEORY OF MARKETING TANGIBLE GOODS TO THE MARKETING OF INSURANCE

ROBERT B. MINER

During the post-World War II years, discussions of marketing theory have occupied prominent positions on the programs of conferences and seminars and have accounted for a burgeoning literature of some note. In part, such attention has resulted from the sincere desire of thoughful students to integrate the mass of specific marketing knowledge accumulated for nearly a half century. In another respect, however, interest in theory is a not unexpected response to the stimulus of status-craving on the part of those energetic students and practitioners anxious to share in the respectability presumably afforded by the word *theory*. A corollary of the emphasis on theory is the continuing resolve to view marketing more as a science than as an art.

Is There a Theory of Marketing Tangible Goods?

It is proper to ask if there is a theory of marketing tangible goods. If an answer is in the affirmative, it should be relatively simple to proceed to the question of the application of such theory to the marketing of insurance. If the answer is in the negative, this article may quickly be brought to an end. But if, as seems likely, the answer is inconclusive, with numerous qualifications and provisos attached, effort must be devoted to explanation and delineation before conclusions can be drawn concerning application to insurance.

Meaning of Theory

To begin with, the meaning of "theory" must be made explicit. Although there are many available definitions of the word, it is proposed that a theory immediately be defined per Baumol [1] as "a structure which describes the workings and interrelations of the various aspects of some phenomenon." In most disciplines, e.g., physics, astronomy, economics, sociology, the theorist examines a set of facts from the real world and devises a structure which takes the form of a simplified model, embracing hypotheses, principles, and—perhaps—facts arranged in harmony with a pattern of assumptions held by the theorist. Almost always, the assumptions control the selection of facts used in his examination of the phenomenon. The model should obviously behave to a considerable extent like the phenomenon, but with a liberal dash of make believe, in view of the simplification implicit in the model.

Marketing Theories

In 1948, Alderson and Cox wrote an

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[1] W. J. Baumol, "On the Role of Marketing Theory," in E. J. Kelley and W. Lazer, *Managerial Marketing: Perspectives and Viewpoints* (Homewood, Illinois, Richard D. Irwin, Inc., 1958), p. 420.

article entitled "Towards a Theory of Marketing"[2] which commanded immediate interest. Two years later, the same authors edited an American Marketing Association symposium, *Theory in Marketing*[3] which "reviewed contributions to marketing theory from many sources—traditional economics, economic geography, vector psychology, the methodology of experimental inference, political science, new insights into the nature of the firm, and past marketing studies."[4] Then, in 1952, Umemura, writing in an Indiana University Symposium, advanced the thesis that the Classical School of economists possessed "a surprisingly clear and remarkable understanding of the nature and process of marketing as it is recognized today."[5] Umemura found that embodied in the treatises of the Classicists is a well-integrated theory of marketing, providing a rational explanation of the role of marketing in the economic order. The theory

> is fashioned around the concept of specialization from whence a dichotomous rationale of marketing is evolved. First, division of labor necessitates exchange, and with exchange there must be marketing activities. Thus, marketing, in effect, becomes the core of the economic process. Secondly, with the application of the specialization concept, it is logical that some workers would specialize in manufacturing activities while others would concentrate on buying and selling and other functions commonly classed as marketing. By the same line of reasoning the Classical theorists explain how there may be specialization by types of businesses, and they develop a rational economic justification for middlemen upon this basis. In this manner, the Classicists vividly reveal that marketing is both the result and manifestation of the division of labor.
>
> With the extension of the concept of specialization, the Classical scholars provide meaningful economic explanations for the following issues: 1) the division of marketing middlemen by retailers and wholesalers, 2) the development and existence of various types of retail establishments, 3) the advantages of large-scale retailing, 4) the limitations of forward vertical integration, and 5) the level of total marketing cost.[6]

However, despite Umemura's penetrating analysis, it is doubtful whether many students of marketing would accept his findings as proof of a full-blown theory having emerged from hindsight synthesis of material not purposefully directed to theoretical constructs of marketing.

The appearance of Alderson's book, *Marketing Behavior and Executive Action*[7] in 1957 marked a significant forward step in the development of theory. But, as Baumol points out:

> While it is rich in insights drawn from experience, it cannot be characterized as a description of marketing processes and institutions. It does not pretend to create a comprehensive new model for the marketing mechanism. Attainment of such a goal would be too much to expect of a path-breaking work in any young discipline. But the book succeeds entirely in its more modest purpose: the provision of perspectives for model building directed either toward general interpretation of marketing or the solution of individual problems.[8]

Since rational problem solving is the dominant theme of the book, there is agreement with the "economic man" premise of the Classical economists.

Aspinwall has constructed a brace of

[2] *Journal of Marketing*, Vol. XIII, No. 2, (October 1948).

[3] R. Cox and W. Alderson, (eds.), *Theory in Marketing* (Homewood, Illinois, Richard D. Irwin, Inc., 1950).

[4] S. C. Hollander, "Looking Around: New Marketing Concepts," in Kelley and Lazer, *Managerial Marketing: Perspectives and Viewpoints*, *op. cit.*, p. 460.

[5] G. M. Umemura, "The Classical School and a Theory of Marketing," in *Marketing: Current Problems and Theories*, S. F. Otteson (ed.) (Indiana Business Report No. 16, Indiana University, 1952), p. 19.

[6] *Ibid.*, pp. 27-28.

[7] W. Alderson (Homewood, Illinois, Richard D. Irwin, Inc., 1957). The subtitle of this book is "A Functionalist Approach to Marketing Theory."

[8] W. J. Baumol in Kelley and Lazer, *op. cit.*, p. 424.

theories offered as "tentative suppositions, provisionally adopted to explain facts and to guide in the investigation of others."[9] One theory, termed the Characteristics of Goods Theory, attempts to classify all marketable goods in a scaled array, in order to furnish perspective and frame of reference for organizing marketing facts and for weighing decisions. A second construct, labeled the Parallel Systems Theory, is presented as an explanation of the parallel relationship between so-called distribution systems and promotion systems of goods. Yet, these theories seem basically just to be elaborations of long-accepted classifications and relationships familiar to all marketing students. They are empirically determined and offer little in the way of true explanatory value.

The attempts at developing a theory of marketing of tangible goods, so briefly sketched above, are praiseworthy, and they are bound to be of great value to further attempts in the future. The chief barriers in the path of development of a single theory covering all tangible goods marketing are that (1) marketing is highly complex and amorphous in the aggregate, with vague and shiftable boundaries, and (2) macro- and micro- viewpoints relative to marketing are intertwined and subject to much confusion.[10]

Some description and explanation of successful micro-marketing—assumed to be of greater interest to the reader than macro-marketing—would certainly seem possible of accomplishment and might, thereby, be the basis for an eventual theory. The trouble is, of course, that imprecise generalizations must initially be substituted for precise, testable hypotheses and rigorously stated principles. The remainder of this article is devoted to a summation of five principles (so-termed, at least) which might conceivably form the nucleus of a fairly detailed and logical theory of the micro-marketing of tangible goods and which, in the hands of sophisticated managements, might have some predictive value.

Five Principles of Micro-Marketing

Of the five principles set forth below, three, and perhaps even four, are as pertinent to the marketing system as to the firm's marketing efforts. Discussion is, however, directed to a micro-view. It is, to be sure, presumptuous to think of these as principles of *successful* marketing, yet such is the intention in presenting them.

Marketing Is Productive

Management must believe in, and adhere to, the principle that marketing is productive, if the best interests of the organization are to be served. In the economic sense, production is the creation of values through the addition of utilities, *i.e.*, the capacities of goods (and services) to satisfy human wants. Four types of utilities are generally recognized, namely, form, place, time, and possession. Of these, all but form utility are added by marketing.[11]

Thus, the retailer or wholesaler is as much a producer as is a manufacturer who changes the form of materials. As a corollary, all who engage in marketing are productive and make a contribution to the economy. A post-World War II conceptual development stems from the foregoing. This is the concept of "value added by marketing."[12] Widespread adoption of this concept in measuring the output of

[9] L. Aspinwall, "The Characteristics of Goods and Parallel Systems Theories," in Kelley and Lazer, *op. cit.*, p. 434.

[10] A macro-view of marketing treats the system as a whole, or a major segment thereof, in the economy. A micro-view considers marketing by and within the individual firm.

[11] A full and lucid treatment of the relationship of marketing, production, and economic value may be found in T. N. Beckman, H. H. Maynard, and W. R. Davidson, *Principles of Marketing* (6th ed., New York: Ronald Press Co., 1957), pp. 6-8.

[12] See, for example, Beckman *et al.*, *op. cit.*, pp. 710-725.

marketing institutions, along lines used for years by the Bureau of the Census in measuring value added by manufacture, emphasizes the productive character of marketing and places marketing costs in their proper perspective. To speak of value added by marketing is to shift emphasis from costs and wastes to values created, from a negative to a positive approach toward the role of marketing in the operations of the firm. The essentiality of marketing functions is thus made evident to all parts of the organization. In the absence of a value added approach, marketing executives are constantly cast in the role of apologists and top management is prone to underrate the central importance of marketing in the strategy of business success.

Marketing Is Customer-Oriented

Marketing has—or should have—priority of management attention within the firm, only by virtue of the fact that the market wields veto power over all other activities and responsibilities. It is the market, hence customers, which sanctions all steps prior to and including the sale and servicing of goods.

Recognition of the customer as the focal point of market effort seems obvious, nevertheless all too many firms lose sight of this in their assignment of relative goals. For example, products (including insurance policy forms) are apt to be regarded as physical entities, notwithstanding the fact that customers are interested in purchasing bundles of utilities yielding satisfaction in consumption. As Davidson has observed in connection with marketing in the appliance industry:

> I suggest that the industry usually is guilty of thinking about the things that it sells in terms of their physical dimensions or in terms of the way it tries to advertise or sell them not in terms of how the product will do the things that people want or need to have done.[13]

Thus the concept of "product" must extend well beyond the confines of something material or technical. Service following the sale is one important item in the bundle of utilities, especially in the case of insurance.

Full acceptance of the customer-orientation principle necessarily demands vigorous and continuous research on market characteristics and the various aspects of consumer behavior. The popularity of motivation research in recent years attests to the concern of many companies in learning more about consumers. Despite the faddish flavor of much such research, progress has been made in fathoming buying behavior, with attendant values for customer orientation. Certainly many insurance companies appreciate the value of marketing research in guiding management to proper goal-directed effort.

An integral part of good marketing research is provision for continuous market feedback. Current information on market position in the distribution of tangible goods is essential for minimization of misdirected marketing policies and operations. Without the services of such organizations as A. C. Nielsen Company and Market Research Corporation of America, many of our leading manufacturers of consumer goods would be greatly disadvantaged in the competitive swirl.

A facet of customer orientation having implications for insurance is the relative freedom of large numbers of middlemen, as purchasing agents for their customers, to make supplier choices. That is, channels of distribution for many products are determined as much by middlemen as by manufacturers. The traditional notion that channels are selected solely by

[13] W. R. Davidson, "Marketing Concepts That Will Shape Tomorrow's Business," *NARDA News*, Vol. 16, No. 6, (Feb. 24, 1958), p. 6.

manfacturers is true only in the short run.[14]

Marketing Is Dynamic

That marketing is truly dynamic is very apparent. Examples abound of innovations in marketing during just the last decade. As Leavitt notes:

> Some of them are easily as dramatic and revolutionary as automation on the assembly line. Nobody in marketing needs to feel inferior in the presence of cyberneticists. There is nothing matter of fact about the exciting marketing developments represented by vending machines, prepared frozen foods, precut meats, motels, branch department stores, customer self service, suburban shopping centers.[15]

Yet, unlike product innovations, most marketing innovations have been unplanned and often accidental results of the inexorable march of events in business. The lesson is clear. Progressive management must organize for prosecuting systematic programs of marketing experimentation. Marketing equivalents of Research and Development departments should be created and given appropriate status within companies.

Morrill has pointed out a number of marketing innovations in insurance, although some of them are more "product" than marketing in nature. Included are the Family Life Policy, monthly premium payment plans, pre-authorized checks, and acquisition of life insurance affiliates by fire and casualty firms. These all represent recognition of the dominance of the middle-income, mass market for insurance and the consequent opportunity for multiple-line marketing.[16]

Marketing Is for Profit

The fourth principle undergirding the rudiments of a micro-theory of marketing, relates to the profit goal of marketing and, hence, total company effort. This is to say that top management's philosophy must incorporate the profit concept rather than the volume concept as a way of business life. It is not, of course, suggested that volume should be eliminated as a source of profits; this would be a ridiculous point of view. Management should, however, cast aside the goal of volume for the sake of volume alone, except for short-run tactical purposes necessary to fulfillment of long-range strategy having the profit goal.

Marketing Is an Integrated Complex

Acceptance, particularly of customer orientation and the profit goal as two marketing principles auguring successful marketing by the firm, implies a new kind of internal company organization, depicted in one recent volume as:

> . . . a new kind of setup to bring together the skills, equipment, space, and materials differently. Marketing management will take over the total planning for the market; and its greatest contribution to profitable operations will be through coordination and integration of the many activities directed at the single objective of profitable customer making and the satisfaction of customer needs.[17]

Because of the form utility production orientation of most manufacturing firms, many activities now assigned to other departments must be transferred to marketing. Examples of such activities would be product planning, transportation, public relations, forecasting, and finished goods inventory control. By such transfer the principle that marketing is an integrated

[14] For further insights into channel relationships, see p. McVey, "Are Channels of Distribution What the Textbooks Say?" *Journal of Marketing*, Vol. 24, No. 3, (January 1960), pp. 61-65.

[15] T. Leavitt, "Growth and Profits Through Planned Marketing Innovation," *Journal of Marketing*, Vol. 24, No. 4, (April 1960), p. 1.

[16] T. C. Morrill, "Creative Marketing of Life Insurance," *Journal of Marketing* Vol. 24, No. 2, (October 1959), pp. 11-16.

[17] H. Lazo and A. Corbin, *Management in Marketing* (New York: McGraw-Hill Book Co., Inc., 1961), pp. 23-24.

complex becomes operational. Lazo and Corbin observe certain personnel implications of the integrated complex concept as follows:

> Because *marketing* has been, until recently, synonymous with *selling* in most companies, it has been difficult for many business executives to make a sharp distinction between marketing and selling in the revised company setup. . . . The practice of changing the name of the chief marketing executive to vice-president (or director of) marketing is growing. And a clear line of distinction is being drawn between *sales*—the activity of getting the volume—and *marketing*—the planning and coordinating of all the distribution functions of the firm for profitable selling.[18]

Conclusion

Despite the fact that the marketing of insurance does not encompass a number of activities essential to the marketing of tangible goods—for example, storage and transportation—and that there are several other significant differences between the two areas of marketing, as revealed in Warren N. Cordell's analysis in this issue, it seems obvious that the five principles set forth in this article apply with about equal force to the marketing of insurance.

[18] *Ibid.*, p. 25.

APPLICATION OF THE THEORY OF MARKETING TANGIBLE GOODS TO THE MARKETING OF INSURANCE

RAYMOND C. JOHNSON

The analysis in this paper refers only to Personal Insurance—Life, Health, and Annuities sold both to individuals and to groups. It is not concerned with Property Insurance—Fire, Casualty and Marine. There are great differences in marketing these two forms of insurance and these differences should be kept in mind during the discussion.

There are some who believe the marketing of life insurance is no different than the marketing of any other product offered the public. Thinking along these lines could get a life insurance sales executive into serious trouble. There may be some *similarities* in the property insurance field to the marketing of tangible goods, but in the personal insurance field a study of the *differences* should prove more rewarding.

If marketing is thought of as embracing every function that takes place from the time the product is first conceived until it is in the hands of the ultimate consumer, certainly personal insurance and a tangible product have to pass through most of the same steps. There must be consumer research, product design, packaging, pricing, advertising, sales promotion and service.

Whether one is marketing a product or personal insurance, the marketing must be productive, customer-oriented, dynamic, integrated and profitable. It is agreed that insurance companies can and should benefit from the successful marketing experience of product manufacturers.

But because of certain fundamental *differences* between marketing products and life insurance, these functions must be performed in a different manner. It is about these differences that this analysis is concerned.

First it is well to start by reviewing some of the basic facts about marketing products and life insurance.

Distributing Products

Most of the things that the American people buy are products—tangible things that are manufactured or processed or packaged—and for which there is already an existing demand. Most of these products are purchased by the consumer at the point of sale *without any person influencing the decision.* In the past few years, with more and more supermarkets and super-drugstores and with more and more self-service stores of every kind (even variety chains, such as Woolworth's), there is almost a complete absence of any personal selling.

Product manufacturers seek to induce the public to select their particular prod-

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uct through advertising, packaging, point-of-sales displays and promotion, price concessions and the like.

This point was emphasized earlier this month at a New York sales executives club meeting. The chief sales officers of five different product manufacturers joined on a panel to tell what they expected to do to boost sales in 1961. The products were tobacco, liquor, food, autos and proprietary drugs. The names of these products are brands well known to every American.

These product people frankly admitted that there was comparatively little they could do to boost the existing demand for their product. Their great problem, they agreed, is to try to influence the purchaser to select their particular brand at the point of sale.

For example, consider the man who smokes cigarettes. No one has to persuade him to buy cigarettes. He buys them on his own initiative and as a matter of habit. The tobacco companies like this. However, there is another side of the coin which they do not like. It is very difficult for them to influence one who smokes another brand to change to theirs. When a man goes into a cigar store and asks for a pack of Kents, the sales clerk gives him Kents, without trying to switch him to a different brand.

In the same way, the liquor executive agreed that most whiskies are pretty much alike, and no clerk in a liquor store is going to try very hard to push one brand at the expense of another.

Summing up, most tangible products enjoy a constant demand, with the buyer initiating the sale, but with the manufacturer almost helpless, *at the point of sale*, to influence the buyer to select his brand instead of that of a competitor.

Distributing Life Insurance

Now let us look at life insurance and how it is sold. We should start with fact No. 1: "Life insurance is sold — not bought!" In fact, there is no demand for life insurance, at least in the ordinary sense of the word.

Consider this illustration. If every life insurance agent in America, starting tomorrow, took a 3 months' vacation, there wouldn't be enough life insurance sold in the next 3 months to pay for the ink on the applications the companies would not use. The agents create the demand for life insurance. When they stop creating, the companies stop selling.

When a man is hungry, he buys food; when he needs clothes or shelter or transportation, he buys a suit or rents a house or purchases a car. Years ago, he acquired the coffee-in-the-morning habit, or the cocktails-before-dinner habit, or the cigarette habit. Now it is only a question of what brand he will buy.

The consumer must be pre-sold, predisposed towards one brand over all others, by sales promotion and advertising before he gives his order to the order-taker.

But life insurance has always been different. Here the agents create the demand in person-to-person interviews. Since no one (who can buy life insurance) really thinks *he* will ever die, or be old and penniless, the prospect feels no immediate need for the benefits of life insurance. To make the sale even more difficult, others say to the prospect for life insurance, "Enjoy now and pay later." The life insurance agent has to say to him, "Pay now and enjoy later." It is only when an agent makes a prospect feel the *immediacy* of this need that a demand is created and he becomes a buyer of life insurance. The life insurance industry has to create its own demand!

To sum it up, in this business *nothing* ever happens until a salesman makes a person-to-person, face-to-face contact with a prospective purchaser and asks him to buy. Customers seldom walk in—and when they do occasionally, they usually have an electro-cardiogram that looks like

a seismograph tracing of a California earthquake.

It has been said that "There are just 3 things in this life that people won't do unless somebody personally takes them by the hand and leads them into it: make a will, join the church, and buy life insurance."

That's why so many people die intestate; that's why there are religious missionaries and revivalists; and that's why the personal services of the life underwriter are indispensable in the marketing of life insurance.

Now let us consider fact No. 2. This is a corollary and follows from fact No. 1 as a natural consequence. Here it is, "Life insurance companies do not sell life insurance,—only life insurance agents sell life insurance!"

One who reads some of the advertisements and sales literature of life insurance companies might think that people could be persuaded by the printed word alone to come to the home offices and agency offices and make application for life insurance.

All this was tried in the early, formative years of the business, and at periodic intervals ever since, always with the same, complete lack of success. Many times during the past hundred years life insurance companies have tried to sell life insurance without personal salesmen, and always without any real success.

This brings consideration of fact No. 3. "It is the service of the agent that needs to be sold to the public, not the product, or the prestige of the company!" The public is sold on the value of life insurance today; they just don't do anything about it! This is true even though the life insurance companies of America have great prestige in the eyes of the public.

Today's Agents

Does this also apply to the agent? He is far superior to his counterpart of 25 years ago or of even 10 years ago. He has been more carefully selected, much better trained and is doing an excellent job of protecting the families and businesses of the United States and Canada.

Today many life underwriters have become trusted consultants on family financial problems, experts on business continuance problems, respected advisors on employment benefit programs. Generally, the agents today are well prepared to render a valuable service to their policyholders and clients, a service which can be obtained nowhere else.

It is not implied that every agent is doing a magnificent job but, by and large, the career life underwriter of today is a dedicated and well-trained man. 75,000 of them have completed one or more parts of L.U.T.C. and 35,000 of them have completed one or more parts of C.L.U. Members of this Association have taught C.L.U. classes and have made a major contribution to this fine educational program.

Someone, years ago, defined a good public relations program as 90 per cent doing a good job and 10 per cent getting credit for it. The life underwriter today *is* doing a good job but he is not always getting proper credit for it.

On the other hand, some progress has been made in improving the status of the life insurance salesman in the eyes of the public. For example, in a major address before the New York Sales Executives Club, Jack Minor, marketing director of Plymouth, recently stated that the life insurance companies were doing a much better job than the automobile companies in attracting high grade college men into their sales ranks. Mr. Minor congratulated the life companies on the outstanding job being done through training and educational activities such as C.L.U., to give their salesmen professional status in the eyes of the public. Despite these complimentary remarks, the battle is far from won.

Life underwriters are the only group

of people in America who are calling on people in their homes and offices and shops to help them with their financial problems—banks are not doing it—savings and loan associations are not doing it—trust officers and lawyers can't do it under their codes of ethics. The life underwriter of today is the only one in the community who is trained and skilled as a family financial consultant and who is going to the people with this service. But his unusual and valuable services need to be sold to the public.

Conclusion

In marketing products for which there is a constant demand, less and less personal selling and more and more self service is seen. Even where there still are sales clerks in stores, they are usually just order-takers. They seldom try to switch customers from one brand to another. The manufacturer can do very little, *at the point of sale,* to influence buyers to select his product, rather than that of a competitor.

Marketing life insurance is quite different. There is no life insurance sold until a personal contact is made by an agent. The companies enjoy great public acceptance. The agent of today is almost unique in his ability to help families and individuals solve their financial problems. The best way for companies to promote sales is to motivate buyers to want to get together with agents.

It would seem that there is some sort of parallel here with the marketing problems of the ethical drug industry. Squibb and Upjohn and Parke-Davis have used much of their advertising and sales promotion in past years to sell the public on the services of their family physician. They did this because they knew that the only way they can sell their antibiotics and prescription drugs is to encourage ill people to go to their family physicians. Then the physicians, based on their training and skills, will prescribe the proper drugs and sales will be made.

The similarity with life insurance is indeed striking. The life insurance companies manufacture the policies in hundreds of sizes and shapes. The agent is a trained specialist in life insurance services. The agent prescribes for the buyer the right combination of policies and settlement options so that the buyer and his family receive maximum benefits from their purchases. No sale is made by the company until the agent and the buyer get together—just as no ethical drug sale is made until the physician and the patient get together and the physician prescribes.

The difference between the marketing of ethical drugs and of proprietary drugs (such as toothpaste, shaving cream and the rest) is as great as that between the marketing of life insurance and the average tangible product.

It appears that life insurance marketing executives have two big objectives:

(1) Educating and training salesmen to the point where they are fully capable of counseling individuals and business owners regarding their financial problems and offering them sound solutions, and

(2) Educating the public through advertising, sales promotion and example, on the desirability of using the services of these salesmen.

Certainly these problems are vastly different than those involved in marketing a tangible product.

THE RESPONSIBILITY OF THE INSURANCE INDUSTRY

FREDERIC M. PEIRCE

Although I know that many of you are teachers of both life insurance and general insurance, I shall speak only of the responsibilities that I believe appertain to the business of life insurance, for that is the only insurance field to which I have been exposed. But within the connotation of life insurance, I also include health insurance, for this is an equally vital area in the field of personal insurance.

The responsibilities of this huge business are numerous and weighty. It would require temerity beyond that which I possess even to attempt to treat them thoroughly and analytically in a brief period. For example, it could be said that the over-all charge of the life insurance business is:

(1) To offer soundly conceived forms of financial protection against the hazards of death, old age, and disability, responsive to the human needs of society at the lowest possible cost consistent with sound management;

(2) To render prompt, efficient, courteous and helpful service to its policyholders and the beneficiaries;

(3) To provide constructive counsel and guidance in the use of personal insurance and annuity coverages toward the achievement of personal and business financial security;

(4) To invest funds prudently and in the long-range interest of a healthy and expanding national economy;

(5) To administer its affairs with due regard for the dignity, advancement, and fair remuneration of those associated with it;

(6) To accept and discharge the obligations of good citizenship on the local, state, and national levels.

Certainly these are responsibilities which the industry has indicated by its actions and its pronouncements that it has assumed and is attempting to meet. Yet, an analysis of them and their implications would carry us far beyond our time limitations. In delving into this broad subject, therefore I will select for analysis only some of the more fundamental concepts.

I think we can agree that the basic responsibility of the life insurance business is to serve the saving public by protecting it against the financial consequences of life, disability and death. This protection is to be afforded for a specific period of time, or for a lifetime. The protection takes the form of promises to provide sums of money upon the occurrence of certain future events. These promises may be outstanding ten, twenty, thirty, even fifty years or more. The long-term nature of the business therefore demands that the protection must be sound and enduring.

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Responsibility for Soundness

Because of the long-term nature of the business, the full effects of the decisions that are made by life insurance company managements in devising, distributing and discharging their promises may not become apparent for a generation or more. No matter how competent the decision-maker, it is impossible to foresee all the developments of twenty, thirty, or fifty years hence.

It is perhaps this awareness of the unpredictability of the far distant future that accounts in large measure for the fact that our business is, and must be, impregnated with a basic conservatism. At the same time, it is necessary to be progressive, to accommodate our methods and products to the changing needs of the people. But always we must be mindful that change must be approached with caution. If we are, in fact, tradition-bound, it is because our traditions have proven themselves to be sound, despite wars, epidemics, booms or bust. It remains our obligation to provide absolute certainty in a relatively uncertain world. Our very existence depends upon the integrity of our promises.

Despite our basic conservatism, far-reaching changes have taken place in the life insurance business in the past ten years or so. The galvanizing force that has caused many of these changes to occur has been the constant unremitting pressure of competition within the life insurance business, as well as competition from without, for the savings dollar. Some of these developments may be questioned on the premise of soundness: the constant annual race for volume—to beat last year's figures; the development of contract "specials"; financed sales; minimum deposit sales; the extension of group coverages in well-nigh all directions; merchandising emphasis on cost. Most certainly it is our responsibility to grow. We must grow to stay healthy—to protect the age level and the vitality of our insurance in force account. But that growth also must be through means which will enhance the strength of the business and the security of present policyowners, and which will soundly serve the public.

The soundness of life insurance is not only interwoven with product design, and marketing practices, and efficiency of operation—it is also a matter of investment.

Long-Term Investment Responsibility

The validity, the soundness, of our promises is dependent upon our investments. Assets are held to secure the fulfillment of our promises for future performance. They cannot fulfill their function unless they are themselves productive of income. They must first be available for translation into cash when needed, and equally important, they must meanwhile produce not less than a previously assumed rate of interest. The various states, through their laws and administrative bodies, recognize the essentiality of this by regulating the types of investments which life insurance companies can make.

Aside from this all-important consideration involving investments and affecting the sacredness of the promises made to the individual insured, there is another responsibility that has come to be of enormous significance to the nation as a whole. Life insurance is the largest single source of long-term capital in this country, with the major concentrations of investment in corporate bonds and mortgage loans.

In the corporate bond market, the life insurance business is the largest single provider of funds. Recently, because of the impact of federal income taxation, we have became a substantial investor in tax-exempt securities. We continue to be a major factor in the mortgage market, al-

though with the substantial growth of savings and loan associations in recent years, which invest chiefly in mortgage loans, this market has come to be dominated by them. It is our responsibility as a business to be mindful of the great importance of our business as a source of capital in our economy. But in recent years, we have not grown in importance in this area to the same extent as other savings institutions that are also sources of capital.

Savings, in general, have more than kept pace with the expansion of the economy, but the life insurance business is accounting for a reducing share of the total. In 1952 life insurance represented 38 per cent of the savings flow. In 1959, it was 25 per cent. Someone might well observe, at this point, "So what?" Is this of genuine importance? Is it of real significance to anybody who is not in the life insurance business? It is tremendously important to the entire country, for two very good reasons.

The first of these is the importance of all types of savings to an expanding economy. Despite the fact that savings have grown faster in the aggregate than gross national product, their growth has not kept pace with the tremendous demand for funds for housing, public facilities and industrial expansion. Noted authorities believe that capital in this nation is in short supply now, and that we will require increasing capital funds to meet the future needs of a rising population at home, and those of the underdeveloped areas of the world. It is clear, then, that for this reason alone, the life insurance business and all savings institutions have a responsibility vigorously to promote savings through their facilities.

In the light of this responsibility, how has it happened that there has been a downward trend in life insurance savings? Since sales are dramatically up, since life insurance in force has increased sharply, the answer lies, of course, in the type of coverage that has been sold to the American people. There has been a marked change in this respect.

In the last fifteen years, group insurance in force has increased from 15 per cent of the total to 34 per cent. Individual term has increased from 3 per cent to 11 per cent and ordinary and endowment, the kind with a savings element, has fallen from 64 per cent to 47 per cent. Obviously, less insurance is being sold with a savings or investment element, and more of the pure protection variety, whether in the form of group term, ordinary term, minimum-deposit or funded plans.

Simultaneously, there has been an increase in surrender benefits and in policy loans, and a decrease in funds left under supplementary contracts not involving life contingencies. These developments are influenced by the economic climate of the times and the fluctuations of the prime money or interest rate, factors largely beyond the control of any one industry.

But the type of life insurance that is sold is largely within our control. Most life insurance is sold rather than bought. The purchaser is apt to act on the recommendation of the salesman. He tends to buy what he is sold, since he rarely initiates the transaction.

This brings me inexorably to the second compelling reason why it is highly important to the nation that the life insurance business increase its sale of coverages containing the savings element, as well as the protection element.

It is because life insurance is unique as a savings and protection device. It fulfills a function not possessed by any other long-term savings channel. It is the only means society has ever devised whereby the average man can, by the simple stroke of a pen, immediately create an estate—and save it later! It is the only

form of savings which carries with it the semi-compulsion of a payment which must be made to protect the insurance portion of the plan. It is the only security which is guaranteed against loss, and which promises that the savings dollars will be there for emergency, illness, or retirement, if the insurance dollars are not needed. Those who lived through the 1930's need only be reminded of what great benefit life insurance cash value dollars can be in time of dire need.

Responsibility for Adequate Distribution

Because there exists for the average man in our kind of society a basic need for the financial security that only life insurance can provide, the life insurance business has a responsibility adequately to distribute its product. It is a responsibility that will continue so long as our way of life is predicated upon individual freedom.

To its credit, it may be said that the life insurance business, viewed from several aspects, has performed creditably its responsibility for distribution. Over 123,000,000 of our countrymen own life insurance, totaling $585 billion. In 1960 alone, it is estimated that residents of the United States will have purchased $73 billion of life insurance. This is over 2½ times the amount purchased just ten years ago. In the same short period of ten years, life insurance in force has multiplied 2½ times.

On the other hand, as creditable as these records seem to be, as enormous as these figures are, we must ask ourselves, is this enough? Is this adequate distribution, not from the standpoint of industry prosperity, but from the standpoint of the public that we serve?

Life insurance coverage in the United States averages out at about $9,500 for each family in the nation, or about $11,000 for each insured family. Viewed as a total, this represents only about 19 months of income. Most students will agree that this falls short of genuine financial security, inasmuch as life insurance constitutes the majority of the assets that most men leave their families, according to probate court records.

Remember, also, that we speak of averages, and averages often are misleading. A man can drown in water over his head by crossing a stream with an average depth of two feet.

An average of only 19 months' income per family assumes even lesser proportions when we realize that as recently as four years ago, when the last comprehensive study was made, 39 per cent of all premium income was generated by only 5 per cent of the families owning life insurance. This means that on the average, the life insurance of people in the lower and middle income groups represented substantially less than nineteen months of income. Here is where the life insurance business has a responsibility to do a more adequate job of distribution.

The method of distribution that the life insurance business has utilized with such success through the years, is based upon what we call, for want of a more exact term, the "agency system." For the purposes of this discussion, this means face-to-face selling by men and women on commission, or incentive compensation. Many other methods are currently being tried, from straight salaries to direct mail, to retail counters, and even coin machines. But I do not believe that any of them will supplant the agent. It takes an agent to do the job, and no other system yet devised will do it half so well.

Improvements in the system can perhaps be developed and certainly should be sought, but it takes an agent to point out that Social Security provides subsistence, not security. It takes an agent to persuade people to do what they know they should do and it takes an agent who is primarily a salesman skilled in the art

of persuasion. Even the almost certain knowledge of impending disaster seemingly cannot motivate people to take positive action to protect themselves on their own initiative.

There is today a greater need than ever for the personalized service of agents. The increase in the number of agents selling life insurance as a career is not keeping pace with the increase in our population. There are fewer life insurance agents per thousand of population than there were ten years ago. This arithmetical decline is the more significant in the light of the upgrading of the economic status of a huge proportion of our population. In short, the potential purchasers of more adequate amounts of life insurance are growing more numerous, while the relative number of qualified agents to serve them is becoming smaller. The life insurance business has a responsibility to increase the number of agents. And it has the concomitant responsibility to provide training facilities that qualify them to serve increasingly complex needs of people and businesses for financial security.

Extensive training facilities already exist. Companies have developed their own programs extending over a period of years. Many of them are thorough and comprehensive, employing the most advanced techniques of teaching, and high educational standards. Associations like the Life Insurance Agency Management Association, the National Association of Life Underwriters through the Life Underwriter Training Council, the Million Dollar Round Table, augment and bolster importantly, company provided courses of study. Institutes are held at college campuses. And there is the American College of Life Underwriters, constantly growing in importance and influence, bringing college-level opportunity for learning to the sales forces of the entire life insurance business.

Such training is vital if we are to increase the effectiveness of our selling arm, not only quantitatively but qualitatively as well.

On behalf of the insurance business, I should like to pay a well-deserved tribute to the American Association of University Teachers of Insurance for its contribution to the progress of our business. The enhancement of our library of knowledge which results from the publication of your excellent quarterly *Journal of Insurance*; the improvement and clarification of the language of insurance which is resulting from the work of the Commission on Insurance Terminology; the fine work of the Association and its effect in developing continuously ever improving curricula in the area of risk and insurance—all are major evidence of the very substantial benefits which our business gains through the work of the Association. We are, indeed, indebted to you.

In addition, all of you as individuals are very important to us because of the outstanding job you do as insurance educators in our colleges and universities, as writers of the literature of insurance, and as persons furthering the science of insurance through research.

I speak of the responsibility for adequate distribution. You are major influences in this vital process. It is through your efforts in the classroom that your students gain a concept of the essentiality of insurance in their personal lives. It may well be through your teaching skill that an interest in our field may be kindled to the point that there is born in the student a determination to make insurance his career. Thus you have helped in the vital area of providing one more person out of the flow of college-trained manpower needed in our business, from which will come the managements of tomorrow.

I am conscious of the questions current

among educators, of the propriety of specific business courses in today's business schools—among them, insurance. I believe strongly that the institution of insurance, with its great social and economic influence on the life of our country, must maintain its place in the collegiate world. It is, indeed, a responsibility of our business to see that it is done. Our reason is not only that through the efforts of the collegiate teachers of insurance a more receptive atmosphere for sales may later result, or that we may obtain for ourselves a greater share of college graduates—desirable as those results may be. Even more essential is that the college man of today enters the world to be the business man of tomorrow, with a sound concept of insurance as the means of hedging against the many risks he will face throughout life, as a businessman and as an individual. It would be tragic, indeed, for our country as well as our business, should our place in the collegiate world be reduced, rather than enhanced.

There is, I understand, a proposal before your Executive Committee, to study the current status of college insurance education, and to evolve concepts for its future development. I hope this proposal will have your full support and effort, for it is an essential step in maintaining and improving the great value of the work you do!

Social and Political Responsibility

In recent years, we have heard and read and talked much about the social and political responsibilities of business. There seems to be something of a minor controversy about the degree of such responsibilities. It is my impression that the difference is mainly a semantical one. Some months ago, an article in the *Harvard Business Review* took the position that "Business will have a much better chance of surviving if there is no nonsense about its goals—that is, long-run profit maximization is the one dominant objective in practice as well as theory." Obviously, the primary responsibility of business is to operate profitably and soundly. That is the reason I began this discussion of the life insurance business by considering its responsibility for enduring soundness.

But we must recognize that, from the long view, we must also be prepared to assume social and political responsibilities not directly related to immediate profit. We have a responsibility to make our voice heard in connection with social and political issues that affect our business directly or that affect the climate in which our business operates. We have a responsibility to communicate to the public as well as to our policyholders and our associates. We have a responsibility to do all within our power to prevent dangers to our growth and soundness from arising, from spreading, from taking hold. The best preventive medicine in public affairs is understanding, understanding of the meaning and consequences of proposed measures, understanding on the part of legislators and the public of the facts about our business and about the forces that influence its health and well-being.

In the years ahead, to an even greater degree than has been true in recent years, new circumstances and new conditions will almost certainly confront our nation with new political implications. They will be controversial. We have and must exercise a duty to be heard. We must also make certain that we ourselves understand the developments, that we study them in depth, that we speak out of concern for what is good for the people and for the nation. This involves scholarly study, extensive research, and objective thinking as the foundation for effective communication.

Rarely will the interests of the life insurance business and those of the nation fail

to coincide. The maintenance of personal liberty is essential to both. As an apostle of thrift, it behooves our business to champion the cause of a sound currency, to combat inflation, to advance vigorously and support measures that nourish our national economy.

But we have an obligation to go further. We must work for the preservation of individual freedom, of individual initiative, of individual responsibility. Life insurance is one of the powerful forces that nurtures and strengthens these basic elements in our way of life. We are inextricably intertwined. Life insurance depends on individual freedom, and to a very large degree, individual freedom is sustained by financial independence.

This is the ultimate measure of our responsibility.

CAPACITY

INGOLF H. E. OTTO

The problems of insurance capacity are more subtle and far-reaching than the casual bandying of the phrase would suggest. As so often in the history of ideas, something that "everybody knows" turns out to be distorted. Capacity seems quite simple to the man buying insurance. He knows that a capacity problem exists when he lifts his telephone and asks his agent to bind $100,000 on an unprotected wooden auction barn. From his experience of life insurance, he had the idea that giving an agent a large premium was a boon. In the two days or two months it takes to cover the auction barn he learns that some insurance premiums are most difficult to insert into companies.

A buyer would have the same sort of difficulty in other placements: long-haul trucking, a $200,000,000 manufacturing plant, a fleet of jet aircraft, a youthful driver, or flood insurance. From his point of view they all present the same problem, capacity. He had a felt need; he had money to slake it; but he could not buy what he wanted in the quantity he wished. He is just as irritated as if he were hungry, had money to buy food, saw plenty of food in the shops, but could find no restaurant or grocery to sell him any. He would begin to feel disenchanted with grocers and insurers.

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Such a naïve formulation of the problem is, of course, useless in understanding or solving it. This sort of formulation has, however, given rise to much fuzzy thinking and spurious "solutions"; so it must at least be mentioned. It would be difficult, for example, to find in other industries so weak a yielding to uninformed pressure as the establishment of assigned risk pools in the United States. The logic used to justify them is, to be sure, impeccable; but, as academicians know, logic is not a sufficient tool for problem-solving, standing as it does on only the second of four level of analysis. Assigned risk pools are sometimes excused as being practical rather than ideal solutions to a difficult problem. Solving problems incorrectly, however, does not seem particularly practical.

What all this comment comes to in the present case is that the conventional analysis of insurance capacity in micro-economic terms is not sufficient. It tends to issue in a series of quite true and quite irrelevant statements. Connoisseurs of the process have observed that run-of-the-mill problems are solved by programmed techniques:[1] *e.g.*, inventory control, program analysis, costing. But the momentous problems are not susceptible to any existing programmed technique. Being new, unstructured, and complex, they should be attacked by heuristic techniques, but they seem to be solved largely by intuitive leaps from randomly selected

[1] *Cf.* Herbert A. Simon, *The New Science of Management Decision*. New York: Harper & Brothers, 1960.

facts to rather emotional conclusions.

Methodology

The present study of capacity will use the contrary approach—macroeconomic rather than microeconomic. It will, therefore, not be concerned with the internal calculations of insurers as to maximum retentions or with the interesting questions presented by target line reinsurance. These are subsumed under the concept of underwriting, about which a large amount of writing has been done. Instead, an attempt will be made to calculate a reasonable maximum capacity for the entire American insurance mechanism *in vacuo*. This amount can then be compared with the actual demonstrated capacity. The unsurprising disparity between the two can be attributed to imperfections or frictions in the usual fashion. The more important of such frictions will then be examined in detail.

This process of determining the total capacity of an institution *in vacuo* and then examining the frictions which limit it in practice is unexceptional. In estimating the cargo-carrying capacity of the American merchant marine, for example, an aggregate could be formed of gross tonnage, a high and thereby conservative figure could be deducted for the non-cargo space, and a net figure arrived at representing formula capacity. Account would then have to be taken of such frictions as seaworthiness, contraband lists, legal restrictions, and the like, in order to secure a realistic model.

The total capacity of American insurance has been obscured by the great market imperfections that exist: imperfections which American commentators have taken for granted, but which represent the vagaries of historical accident rather than structural necessity. For example, the boundary lines between fire and casualty insurance have been eroded away during the last fifteen years. The process and its rationale have been explored so often at such length that few persons remain to be convinced of its propriety. That is to say, their conscious minds have assented to it: their subconscious minds and autonomic nervous systems may still have the old programs built into them.

Other boundaries, however, remain. And the boundary line between property and casualty insurance on the one hand and life insurance on the other is no more worthy of respect than the eroded fire-casualty division. In other countries, the same company issues all types of insurance contracts; in the United States, insurance groups do the same, but through the artificial and clumsy device of separate corportions. The same device, it will be recalled, was used before the South-Eastern Underwriters decision to circumvent fire-casualty rigidities. Whenever it is used, the device is an example of primitive word-magic: if a thing's name is changed, the thing is changed. Call Tisiphone, Megaera, and Alecto by the name of Eumenides and they will be gentle. Such naïve superstitions may be amusing when they are reported, say, from the Congo, as when ward boys demanded to be given the title of Doctor so that they could begin performing operations; but they are less than amusing when encountered in the United States, set about with all the trappings of modern bureaucracy. As Daenzer says, "It will take some time, but eventually permission to underwrite all lines, life, fire and casualty, under one corporate name must be granted by statute as is the custom in England and on the Continent. It is silly to maintain the fiction of separate carriers with a pooling of expenses and the use of the same sales force."[2] Word-magic dies hard; when

[2] Bernard John Daenzer, "Significant Aspects of Combined Life and Property Insurance Distribution," *Annals of the Society of Chartered Property and Casualty Underwriters*, Vol. 12 (1960), p. 89.

this instance of it is enucleated, American insurers will be a little more healthy and a little more free than they are now.

American Capacity *in Vacuo*

In calculating the total capacity of American insurers, the familiar macroeconomic assumption of a single insurer will be made. The premium income and assets of this insurer will be the sum of the premium income and assets of all the property and casualty and life insurers doing business in the United States, excepting only those too small to be reported (county mutuals, stipulated premium life companies, and the like). In 1959, this insurer had assets in its property and casualty account of $28,601,876,057 and premiums of $14,084,360,406.[3] Its life account contained assets of $113,650,000,000 and premiums of $16,622,000,000. These two accounts cannot be aggregated, however, without deflating the life account by its investment element. Deflating the life assets by the full amount of life and annuity reserves actually results in overdeflation; but that is the conservative thing to do, so the full 77.6 per cent reduction will be made. The residual assets, then, are $25,457,600,000; the residual income, $9,305,696,000.[4] American insurance did, therefore, in the aggregate, have a risk premium in 1959 of $23,390,056,406 and risk-bearing assets of $54,059,476,057.

The capacity of this insurance mechanism can be gauged in several different ways, using the most conservative standard in each case. The insurer might have a rule that not more than two per cent of its premium income could be at risk in any one loss exposure.[5] That limitation would come to $467,800,000. Or the rule embodied in many State laws could be used: an insurer may not cover a single risk in excess of ten per cent of its policyholder's surplus. That rule is far more liberal than actual company practice, and it yields a limit of liability, any one risk, of over $2,000,000,000. Using an empirically derived ratio [6] of net lines being two per cent of policyholders' surplus, a more conservative limit of $415,000,000 any one loss is suggested.[7]

The conclusion derived from this frictionless analysis is that the present insurance machinery of the United States is financially capable of bearing a risk of $400,000,000 any one loss with no strain. The actual willingness of American insurers is, of course, nowhere near this amount; so it would appear that the frictions in the machinery are great. Some idea of the limited capacity of the market in practice may be gained from considering the new giant manufacturing plants that have been erected in recent years. A study made by the Factory Mutuals found ten locations insured for more than $100,000,000 and "several" for more than $200,000,000.[8] This figure may be compared with large covers abroad: the Volkswagen factory

[3] *Best's Aggregates & Averages, 1959.* New York: Alfred M. Best, 1960.

[4] *Life Insurance Fact Book, 1960.* New York: Institute of Life Insurance, 1960. The total is made up of (1) health premiums $3,641,000,000, (2) group life premiums $1,704,000,000, (3) industrial life premiums $1,565,000,000, and (4) 22.4 per cent of the ordinary life and annuity premiums, $9,429,000,000.

[5] That this assumption is more conservative than actual company practice was demonstrated by Ambrose Kelly when he compiled the net lines listed in *Best's Fire and Casualty Reports* for the twenty largest stock companies, then divided that figure by their net premiums to discover that the line came to 2.3 per cent of the net premiums written. (*Cf.* Ambrose B. Kelly, "The Insurance Capacity Problem of American Business," address before the Chicago chapter of the American Society of Insurance Management, May 19, 1960.)

[6] *Ibid.*

[7] The policyholders' surplus of American insurance in 1959 came to $20,750,000,000, made up of the following items (fire and casualty figures from *Best's Aggregates and Averages;* life figures from *Life Insurance Fact Book*): stock, $9,381,139,988; mutual, $1,992,981,131; reciprocal, $247,151,395; Lloyd's, $11,716,228, life, $9,117,000,000.

[8] Kelly, *op. cit.*

at Wolfsburg, for example, is insured for $300,000,000 straight fire and $115,000,000 business interruption.[9]

In other lines of insurance, the maximum lines offered by American insurance are even less impressive. The American Hull Syndicate can write no more than $10,000,000 any one hull.[10] In aviation, the United States Aviation Underwriters, Inc. offer a maximum of $5,250,000 hull and $10,000,000 liability cover.[11] Life insurers are capable of affording vastly greater insurances than they actually want to carry, though the overriding consideration in their reluctance seems to be the accelerator effect on moral hazard of increasingly great sums assured. The largest amount reported to have been carried on any one life is $7,000,000 on Pierre Du Pont.[12] There does not appear to be any lack of capacity in life insurance.[13]

A major attempt to provide maximum capacity by mobilizing all the resources of American insurance was made in forming the atomic energy insurance pools: stock and mutual; physical damage and liability. Complicating factors in this effort were, of course, the unknown hazards of the new cover and the minuscule premium volume. On the other hand, the prospect of government atomic energy insurance being provided if private insurance were not forthcoming, spurred the companies on to make maximum commitments. The underwriting capacity finally assembled, came to some $46,000,000 of domestic cover, fleshed out by about $20,000,000 in reinsurance from abroad. Such domestic capacity is worthwhile but not overwhelming. It was received with mixed emotions: Kelly considered it a "noteworthy achievement," [14] while Fougner flatly declared that "this record is pitiful." [15] The limits provided are, to be sure, much less than American insurance can provide even on conservative calculations and come to less than three per cent of the statutory limit, applying the ten per cent limit to the mechanism as a single insurer. The alternatives are simple: if private insurance will not provide the cover, the government will. And, if the government insures atomic energy risks, why not straight fire?

The initial reaction of domestic insurers to this problem is of interest in illuminating the underlying determinants of insurance capacity. During the discussions leading to the formation of the pools, the representative of one of the larger groups began by announcing gravely that his companies would be entirely willing to make available their full resources, up to $100,000 any one risk. Even in so conservative a group, that offer was met with more contempt than amusement.

Frictions

The disparity between the potential capacity of American insurance and its

[9] Arne Fougner, "Property and Casualty Insurance Market," in *World Insurance Trends* (Philadelphia: University of Pennsylvania Press, 1959), p. 323. The business interruption cover is blanket over the Wolfsburg plant and two smaller locations.

[10] Statement of Miles F. York, president, American Institute of Marine Underwriters, before the Senate Subcommittee on Antitrust and Monopoly, May 15, 1959. *Hearings*, Part 2, p. 1012.

[11] Senate Subcommittee on Antitrust and Monopoly, *Report*, August 10, 1960, p. 16.

[12] Institute of Life Insurance, *coram*.

[13] *Cf.* Walter O. Menge, "The Life Reinsurance Market Today," in *World Insurance Trends* (Philadelphia: University of Pennsylvania Press, 1959), p. 309.

[14] Kelly, *op. cit.*, p. 14.

[15] Fougner, *op. cit.*, p. 323. He goes on to say, "That so many companies stand entirely aloof is incriminating negligence. That the others approach it so gingerly is a shame. The strength is there, in our assets and our business volume. The weakness is one of statesmanship. It is based on lack of factual knowledge and intellectual interest and on an absence of respect for the tremendous achievements, also in safety aspects, on the part of an army of brilliant and devoted scientists. It places lethargy, tranquillity, safety, and peace above courage and vision and above that particular responsibility which lies in an active realization of the reason for our being in the insurance business."

actual assumption of risk results from the imperfections and frictions in the machinery. All machinery, whether physical or social, has them. The interesting question is not if they exist, but if they have been kept within reasonable bounds. The kind of disparity indicated in the analysis so far seems to be unconscionable. If an electric plant generated current on as languid and ineffective a basis, it would in all likelihood be disassembled and rebuilt. So an examination of the specific kinds of friction and their causes is of particular importance.

As in all real problems, the number of imperfections and frictions is infinite. An investigation into them must proceed by examining first, the more obvious and important, then looking cursorily at the minor ones, and finally calling a halt at some reasonable point of asymptote. The principal categories of friction are structural rigidities as to class of cover written, premium inadequacies flowing from rate regulation, cover rigidities by reason of form regulation, market uncertainties derived from insurers' personnel inadequacies, and market disturbance caused by the inefficiencies of supporting social institutions, especially the law. These will be examined one at a time, and in some detail.

Structural Rigidities

The first and most obvious market imperfection is structural. American insurance is simply not organized as a single giant insurer or even as a coherent market in which insurances may be bought and sold on the order of the Stock Exchange or Lloyd's. The unique structure of American insurance has been discussed and written about at great length. Most of the comments have been *ex parte*, suggesting that the scene would be vastly improved by the removal or hobbling of a particular competing institution. Such run-of-the-mine special pleading is not intellectually respectable and so cannot be taken into account in any serious attempt to explore the problems of insurance.

A few commentators have, however, addressed themselves to the alogical root of the structure. So Fougner pointed out that, "The capacity by and large is there: it remains to be tapped."[16] The point had been made even more explicitly at the 1951 meeting of the Midwest Conference Committee with members of the subscribers committee of the Western Actuarial Bureau. It was suggested that the companies organize a placement office so that agents who had exhausted the capacity of their own companies could turn the rest of the line over to that office for placing.[17] The same suggestion was made in broader form before the O'Mahoney Committee:[18]

> For many years there has been a need in the United States for an insurance facility similar to the rediscounting operations of the Federal Reserve System. Reinsurance is essentially a banking operation, and at present the reinsurance companies in this country to a limited and imperfect extent do what might be called the equivalent of bank rediscounting. That is, they accept facultatively risks that do not fall under treaty terms, but which are actuarially sound. . . . Under the existing arrangements, a risk of that kind must be shopped around at great length until enough reinsurers are found to accept it. However, if there were a Federal insurance board, it might wish, among other things, to set up an insurance exchange that would be a real insurance exchange instead of an office building with insurance offices in it. An exchange of that kind need be no more than a large room to which representatives of member companies would be admitted in order to exchange reinsurance.[19]

[16] *Ibid.*, p. 319.

[17] James L. Ashton, "Problems of Capacity for Fire Insurance," *The Insurance Field*, March 21, 1952, p. 23.

[18] *I.e.*, the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, United States Senate.

[19] Statement of Ingolf H. E. Otto before the Senate Subcommittee on Antitrust and Monopoly, May 26, 1959. *Hearings*, p. 1076.

What can be done in even a limited area of insurance to mobilize capacity may be seen in the Factory Insurance Association and the Factory Mutuals. In commenting on the success of these arrangements, Kelly produced one wry observation that stands as almost Gallic wit. Pointing out that the Factory Mutuals issue policies for amounts of $100,000,000 as a matter of routine, he goes on to say, "It is, of course, impossible to transfer our approach, based on our specialized methods, to the problem of capacity in the general insurance field; but, if it were, there would be more than enough capacity to handle the present and future needs of American business." [20]

The structural imperfections of the insurance market are not caused solely by historical accident, whims, and the decisions of corporate management. They have been crystalized and institutionalized in the legal and conceptual framework of insurance regulation. The difference between the two may be clarified by considering the fact that, on the one hand, life companies are legally estopped from issuing fire policies in the United States (although a number of companies, like the Royal, write both classes abroad); and, on the other hand, a regulatory authority may restrain a life company from acquiring a property and casualty affiliate. So the New York superintendent went out of his way to prevent the Connecticut General from buying a fire and casualty subsidiary. This sort of gratuitous intervention in corporate decision-making tends to preserve the imperfections in American insurance which the institution itself is trying to reduce. It did, consequently, injure the economic welfare which the insurance commissioners ought to be promoting.

The winds of change are blowing through the structure of American insurance as well as in Africa. The logic of the structure impels a resistless surge toward merger of complementary companies, toward multiple-line underwriting, and toward what has been called multiple multiple-line underwriting. As Daenzer said, all-line underwriting must eventually be granted.[21] When it is, American insurance will be healthier and more efficient. It would be pleasant, however, if insurance commissioners would promote the general welfare by helping this process of rationalization. In addition, and quite apart from the movement to all-lines underwriting, the establishment of a real insurance exchange would be a giant step forward.

Premium Inadequacies

Much of the reluctance displayed by insurers to writing some of the lines mentioned earlier has a simple and logical origin: they would lose money on the cover. Since business corporations are not intended to lose money, they curtail their writings of unprofitable lines or, if possible, eliminate them altogether. Their action seems unassailable common sense: it is, however, quite insane. What would be thought of a shirt manufacturer who refused to make 15½-33 shirts because he always lost money on them, and so concentrated his production on the extremely profitable 15½-34 shirts instead? It takes no expert in cost accounting to conclude that a one-inch difference in sleeve length cannot be the controlling factor, that it is much more likely to be improper price

[20] Kelly, *op. cit.*, p. 12. Hale's comments in this connection are also of interest: "We have no way of harnessing all of the capacity of the country to a single risk. Some of this is due to prejudices, but much of it is normal business alliance and franchise loyalty similar to that found in all other businesses. . . . If the capacity does actually exist and if the real kernel of the problem is the harnessing of existing facilities, a company syndicate offering no services except sheer capacity to agents of member companies might serve the need."—Clayton G. Hale, "Shortage of Insurance Capacity a Challenge to Free Enterprise," *Spectator*, January, 1950, p. 8.

[21] *Vid. sup.*

policies. The trade discussions of rating and underwriting are full of talk about "substandard risks." The term "substandard risk" has no real content. At the proper rate, no risk is substandard. In the limiting case, even flood cover on buildings in a flood plain can be written as chronological stabilization insurance.

Under conditions of fixed rates, however, as in much of the United States, a risk is redundantly rated ("cream business") if it lies above the average of its rating category. It is "substandard" if it lies below. So insurers spend a vast amount of time, energy, and money in trying to attract the "cream business" and trying to avoid the "substandard business." That is to say, the insurers first create an artificial problem by improper rating of non-homogeneous categories, and then go to great trouble to "solve" it. Since, from the standpoint of the economy as a whole, inadequate rates are just as deleterious as redundant rates, the insurers have done a signal disservice not only to themselves but also the public.

In free rate competition, these variations of desirability would be equated by price variation. The lack of homogeneity within each rating classification would be balanced by adjusting the rate to fit the risk. The Procrustean bed would be converted into a properly fitted couch: each risk would then be equally attractive to insurers (in the absence of moral hazard). The risks of each classification which are "better" than average would receive a credit on the class rate; those which are "worse" would be debited. So, persons wishing to buy insurance would find it for sale in sufficient amounts and at proper prices instead of, as at present, being overwhelmed with offers of some kinds of insurance while being unable to unearth any reliable market for others.

The rigidity of the rating structure has two effects on capacity, one direct, the other indirect. The direct effect may be seen in the agent's typical complaint about the small lines which companies are willing to write on inadequately rated risks: "Many times each of us has heard a company representative say that if the rate for a certain class of risk were proper, they would gladly write a larger line. Why aren't the rates proper? Let's put the blame exactly where it belongs—right on the companies themselves." [22]

However annoying such direct effects of rigid rates may be, the indirect effects are the major ones. They have the tendency to make whole areas of insurance sickly and jejune: automobile insurance, for example. The existence of such areas makes insurers timorous about all covers in the areas, about individual "bad" risks, even about risk-bearing in general. The possibilities of the process may be gauged from the fact that a recent rumor to the effect that one of the United States' largest insurers was going to turn itself into a closed-end investment trust, was given credence. Once an insurance company begins to dream of a one hundred per cent combined loss and expense ratio, as the *summum bonum*, it hardly qualifies as an insurer at all. And yet there are said to be several companies along William Street willing to give almost anything for a stop-loss treaty giving just that cover. Rigid rating makes insurers sick: the principal symptoms of the sickness are bad loss ratios, insurance company failures, and a diminished reputation of American insurance abroad.

Consequences of Premium Inadequacies

For the last ten years the combined loss and expense ratios of the property and casualty companies have been creeping up. From 87.6 per cent in 1949 they fluctuated, generally upward, to break through 100 per cent in 1956. [23] During the same

[22] Ashton, *loc. cit.*

[23] *Cf. Best's Insurance Reports (Fire and Casualty.)*

period, the average rate of return on investment (*after* taxes) for representative industrial firms was rather higher: Alcoa, 13.8 per cent; Du Pont, 25.9 per cent; General Electric, 21.4 per cent; Union Carbide, 19.2 per cent.[24] No one has yet been able to think of a convincing reason for insurance profits being less than industrial profits. Irving Pfeffer has pointed out that an investor was concerned with the profitability of his investment without regard to the nature of that investment's operations.[25] If Du Pont can earn twenty-five per cent after taxes, why should an insurance comany do less? His suggestion was that the insurers start thinking in terms of a twenty per cent profit as reasonable. The automatic response of most insurance practitioners to that is to exclaim that competition makes such a result impossible. While a recognized fixture of modern insurance folklore, the idea that unregulated competition makes for lower profits than tightly regulated competition is the precise reverse of the truth.

Once insurers grasp the way imperfect competition actually works, they may be able to gird themselves to break the rate-making system which has given them such pathetic returns. In comparison with other industries, insurance has ranked in the lowest quartile for profits ever since 1945 (with the single exception of 1949). In 1956, it ranked sixty-ninth out of sixty-nine; in 1957, also sixty-ninth; in 1958, sixty-third. And these rankings take investment income into account! Insurance profits, including investments, fell to 1.8 per cent in 1957. Another financial institution, sales finance companies, never fell below 14.7 per cent during the decade.[26]

When underwriting profits alone are examined, they turn out to be so low that about as many companies must have lost money as made money from their property and casualty underwriting. The disturbing pattern that emerges is one of underwriting yielding almost no profits and investments generating about all the profits there are. Under such circumstances, why would insurers want to expand their premium writings and their risk-bearing capacity? Putting the question another way, what incentive is there for insurers to discharge their economic function as insurers?

A concomitant of these basic faults is the great difficulty which fire and casualty companies experienced in the market for funds after World War II. With their capital structure worn down by inflation, large and successful companies found that, in order to obtain new funds from equity financing, their stock had to be offered at a discount of forty-seven per cent.[27]

Another result—and, from the point of view of the economy, much more serious—of the inadequacies is the series of insurance company failures. No adequate study of these failures has ever been made. From published reports, however, it appears that the decade ending in 1959 saw five hundred retirements of insurance companies, of which just under two hundred ceased operations under unhappy circumstances.[28] Such a failure rate is not a universal constant in the insurance busi-

[24] *Cf.* Robert F. Lanzilotti, "Pricing Objectives in Large Companies," *American Economic Review*, XLVIII (1958), p. 921.

[25] Irving Pfeffer, "The Optimum Growth Rate for a Multiple Line Carrier," address before the American Association of University Teachers of Insurance, December 28, 1958.

[26] Beverly H. Mercer, "Wanted: Profits Consciousness," address before the National Association of Casualty and Surety Executives and National Association of Casualty and Surety Agents, October 5, 1959. After soberly reviewing these figures, he concluded by saying, "Awareness of the importance of profit from underwriting is the keystone to our future growth and to making the fire and casualty business rank higher on the profit scale."

[27] Wallace Falvey, "The Status of Our Industry," address before the National Association of Casualty & Surety Agents, November 12, 1948.

[28] *V. Best's Insurance Reports (Fire and Casualty).*

ness: during the same period only one British company failed. There are, of course, more insurance companies in the United States than in the United Kingdom. Indeed, the numerousness of American companies is part of the problem. A lake overstocked with fish does not breed large or healthy ones. The fact that companies proliferate in the United States is not an advantage to them or their customers or the general public.

Almost unlimited access, combined with rigid rates, tends to bring weak and inept companies into existence. Their promoters may be naïve enough to think that the elaborate apparatus set up to promulgate rates will safeguard their profit margin. After all, the rates are explicitly required to be not only reasonable and non-discriminatory, but adequate. So, runs their thought, a new company need only use the prescribed rates and its profit margin is assured. *Sancta simplicitas.*

Not only is the adequacy requirement in rating often ignored;[29] but, even when observed, it applies only to the gross rate. The rate actually received by the insurer may be diminished by any amount of commission. In the competition for "cream business," insurers have been paying flat commissions of forty-five per cent and retrospective commissions of eighty per cent. The effect of such commissions on the adequacy of gross rates and perhaps on the solvency of companies can be easily visualized. Taken together with the system of promulgating rates, it tends to induce the high failure rate of American insurers.

Almost as important from the standpoint of capacity as bad loss ratios and insurer failures, is the diminished reputation of American insurance abroad. During the last five years overseas underwriters have become disenchanted with United States business and have increasingly withdrawn from it. The most important market involved in this reaction is London, especially Lloyd's.[30] Many of the Underwriters came to share Belloc's conclusion that the United States was a very comfortable madhouse. The feeling grew to such an extent that underwriting commitments for risks in the States were drastically curtailed in 1957 and 1958. Binding authorities were withdrawn and the five leading underwriters were reduced to three.[31]

When the Roylance syndicate ran into heavy weather, its difficulties were blamed on Braiby's have persuaded Colonel Roylance to abandon his rule against writing American business.[32] An exploration of why this feeling arose is not germane to our present inquiry. Involved are, naturally, such factors as the general unprofitability of the business offered and the misrepresentations which too often accompanied the offerings. The effect of this feeling on American capacity is clear: as the London market withdrew from reinsurances, the gross lines which American insurers were willing to write, diminished.

If catastrope excesses were cancelled and not available elsewhere, the net lines might also be affected. As the direct London placements were reduced, the business which had previously found lodging in London desperately tried to find a home in the American market, where it was regard not only as substandard, but as "distress business." At one time, two million dollars worth of such business was reported to be drifting about in Chicago. Under such circumstances, the actual capacity of American insurance might remain the same or even increase,

[29] Most spectacularly in the cases of Massachusetts automobile liability and New York automobile liability.

[30] *Cf.* the anonymous article, "A London Underwriter Looks at American Business," *Post Magazine and Insurance Monitor*, November 5, 1959, p. 1367.

[31] *National Underwriter*, December 26, 1958.

[32] *The Economist*, December 13, 1958.

but its apparent ability to cope with the problems of capacity would seem less and less satisfactory.

These, then, are the consequences of rigid rating: bad loss ratios, insurer failures, and a feeling abroad that American offerings are unsavory. They result in diminished capacity in two major ways: a reduction of the actual ability of the mechanism to bear risks, and a much sharper reduction of the willingness of the operators of the mechanism to let it assume risks. Peet has epitomized this latter point in limning the underwriters' attitude as "all too often one of seeking to find reasons why some perfectly insurable coverage cannot be written. If he can't find a reason, he can usually find a "rule" in some book that says it can't."[33]

Most of the points made with respect to rigid rates apply also to inflexible forms. Form regulation produces insurance commissioners to whom the phrase "tailor-made forms" is anathema. And yet, insurance buyers want realistic and individual treatment of their problems. They do not want to be forced into a bed of categorical rules and rates and forms designed for the convenience of the insurers rather than the insured.[34] They want, *inter alia*, deductibles at realistic rate credits, subscription policies, manuscript wordings, and flexibility. They derive no discernible benefit from standard forms and standard rates.

From the insurers' viewpoint, of course, standard forms and standard rates go together. If one is restrictive and the other redundant, any clerk can be an "underwriter." In an unfettered insurance system, however, where the underwriter must determine both the form and the rate, and then accepts responsibility for profit or loss, no mere clerk will do. To get real underwriters, of course, the companies would have to forego hiring clerks with that title at $4000 a year and accept the necessity of paying from $50,000 to $100,000 a year, which is about what a good underwriter is worth. The other executives would probably have to take a cut in salary for a while to pay for such an underwriter, but the profits he generates should soon make it possible for them to recoup the cuts and much more besides.

Personnel Inadequacies

In a free market, with firms offering a variety of wares and competing actively with one another on the basis of price and product differentiation, sales tend to be determined by those differences. If, then, the market is made more "orderly" by largely removing product and price differences, sales will begin to be based on personal influence, whether that is classified as politics or salesmanship. At the same time, by the logic of the combination, or gentleman's agreement, or cartel, or bureau, a firm's position in its industry tends to be affected by its relations with the management of the combination (*aliasques omnes*). These relations, in turn, tend to be based on personal influence, whether that is called salesmanship or politics. So the crucial variable in a rationalized ("administered") industry tends to be not technical skill or even a grasp of the industry's fundamental problems, but personality, the ability to win friends and influence people.

At this point the question is sure to be asked (since this is America in 1961), "Why not?" In what Gibney calls the Genial Society,[35] that question can hardly be avoided. Its answer lies all around us.

[33] William Peet, "An Invitation to Survival," address before the Minnesota Association of Independent Insurance Agents, September 15, 1960.

[34] For an interesting view of insurance forms from the buyer's point of view, *v.* John T. Even, "Notes from a Graduate Course in Insurance Administration," *Journal of Insurance*, XXVII, No. 4 (1960), p. 41 *seq.*

[35] Frank Gibney, *The Operators* (New York: Harper and Brothers, 1960).

If a military commander is selected on a political basis only—on the basis of his being able to win friends and influence people—the result would only too often be an incompetent like Lord North or a madman like Hitler. The capacity for good or evil of corporate executives is, fortunately, much more restricted; but, within these narrower limits, inept executives can cause the same kind of damage as the political general marching to Carrhae.

Instances of insurance executives not quite coping with problems as they arise are not hard to find. The surrender of control over property and casualty rates after the South-Eastern Underwriters decision was an act of folly almost without parallel in the annals of American business. It seems scarcely credible that the senior executives who made that decision did not know what happens to an industry which lets bureaucrats set its prices for it. Perhaps they never rode the New Haven.

Another major instance was their inability to come to grips with the automobile classification anomoly until Allstate, State Farm, and Nationwide had spelled out the lesson. Indeed, automobile insurance is a Pandora's box of examples. As Ashton asked, "When gas rationing came into our lives during the last war, automobile rates were promptly reduced. Why were they not promptly increased when gas rationing ended?" [36] During the same period, a good problem for a sophomore economics class would have been, "What will happen to the loss ratios on 80/20 collision cover in the immediate postwar period, assuming rates constant, or nearly so?" Any student who could not come up with a reasonable answer to that simple problem would deserve to fail the course. Insurance executives, however, apparently did not even ask themselves the question. They waited until the loss ratios asked and answered it simultaneously. Then their reaction was not to cry, "*Mea culpa*," and set up an Underwriting Policy Department. Many of them chose, instead, to make a thorough review of the loss experience developed by each of their agencies in order to ferret out the bad agents who had given them such bad loss ratios.

To run an insurance company without an underwriting policy department is rather like running an ocean liner with no navigator. The captain of such an unfortunate vessel would also keep piling his ship on reefs and shoals. He could then, too, keep throwing overboard the wicked helmsman who had been responsible for grounding his fine ship.

The careful and fair-minded observer will, at this point, raise an appropriate question: is the implied judgment fair? Can valid generalizations be reached on the basis of a few specific examples? The question has a number of answers. For one, judgment on the basis of minimum performance is by no means uncommon: it is used all the time with physicians, admirals, and sopranos. For another, the indicated conclusion is not accepted unthinkingly. It is tentative until verified by empirical tests elsewhere. Confirmation may, for example, be sought in the general rating assigned by the economy of the United States to insurance executives. In a capitalistic system this judgment is expressed in monetary terms. Socialists and communists do, of course, reject such monetary criteria; a believer in the enterprise system cannot. And the judgment of the American economy is that insurance executives rank at the very bottom of the scale. The study made by *Fortune* [37] showed insurance executives to be the least well rewarded of the major corporate executives. Their median compensation lay at $50,658 a year, exceeded

[36] James L. Ashton, "Problem of Capacity for Casualty Insurance," *The Insurance Field*, April 18, 1952, p. 22.

[37] "1700 Top Executives," *Fortune*, November, 1959, p. 138 *seq.*

by every other grouping, from savings and loan institutions ($55,000) to metal manufacuring ($92,647). The median for the entire executive group was $73,584, almost half again as much as the insurance group's.

The *Fortune* profile of the representative insurance executive contained a good deal more information: most insurance executives rose to the top by the finance, legal, or field-man routes; they work fewer hours than any other group except one. The typical man is fifty-eight years old, has been with his company twenty-eight years, and was a liberal arts college graduate. His chief worries are inflation, taxation, and government intervention.

This survey is, as can be imagined, by no means the only empirical verification available. Two trenchant tests remain, one just about infallible, but repugnant to the American love of objective yardsticks, the other fallible but quite popular in the United States. The first is nothing more mysterious than conversation. If a man's command of French is in question, ten minutes' conversation with a Parisian will resolve the question more certainly than a battery of objective tests. If a man's quality as a manipulator of high-order abstractions (alias, "executive") is in question, ten minutes' conversation with a leading high-order-abstraction-manipulator will yield as decisive an answer. This method of evaluation should have particular appeal to academicians. They can individually decide if this subjective yardstick confirms the *Fortune* survey or not.[38]

The second test is, on the contrary, highly thought of in the United States. It consists in taking an executive out of his accustomed environment, removing the protective layers which usually surround him, isolating him from his advisers and assistants, and then asking him a series of questions—the more searching the better, and the more public the better. This formula is the basis for a number of successful television programs, but it may be seen in its purest form in Congressional inquiries. Insurance executives have not too often been exposed to this test: during the last few years, however, they have been, in the O'Mahoney committee hearings. Those hearings began in August of 1958 and are not yet quite over. More than seventy-five persons gave testimony in person: some nineteen hundred pages of testimony were taken. These are valuable sources of otherwise unobtainable information about insurance: for present purposes it is their by-product, unclouded glimpses of insurance executives, that is of principal interest. Their prepared statements are, of course, unexceptional. These represent the conventional modern corporate groupthink. It is when a sudden question intrudes, when the executive is called upon to give his judgment or interpretation of some aspect of insurance, that the quality of the man is revealed. A sampling of such revealing exchanges would run to many pages and will be foregone here. Anyone interested in the process can compile his own enchiridion by leafing through the testimony and marking appropriate passages. He will find astonishing things.

To summarize: insurance executives' performance of their problem-solving function is pedestrian; the rating given them by the American economy is at the very bottom of the corporate scale; personal confrontation, either in individual conversation or in Congressional hearings, does not indicate that the rating ought to be higher. And why are insurance executives relatively ineffectual? The question has been studied elsewhere[39] and need

[38] If the evaluative potential of conversation is not clear, it can be clarified by a few specific examples. Some are set forth in, *e.g.*, Ingolf H. E. Otto, "Excellence in Research," *Journal of Insurance*, XXVII, No. 3 (1960), p. 80.

[39] Ingolf H. E. Otto, "The Executive Crisis," *American Insurance Digest*, September, 1956, p. 38.

not be gone into here. The reasons include such factors as substandard recruitment, the "executive sump-pump" effect, and the relatively low rewards offered. The consequences of inadequate executives are grave: problems are not recognized until they issue in a crisis; they are then grappled with in an atmosphere of hysteria; the problem-solving process used is often confined to hunches and rules of thumb. As for the relation of this weakness to capacity, it is apparent that the large gap between formula capacity and effective capacity is to a considerable extent the result of executive action—or executive inaction. The commentators on capacity quoted earlier kept reverting to that concept: "The weakness is one of statesmanship."

Inadequacies of Supporting Institutions

To some extent every social and economic institution of the United States works with insurance and may, therefore, be considered a supporting institution. Each could be analyzed in turn to discover its specific inadequacies as a supporter of insurance. Such a procedure would be not only exhaustive but exhausting. It would tend to generate more tedium than light; so it will not be used. Instead, a look will be taken at the three principal supporting institutions only: the monetary system, the regulatory system, and the legal system.

The monetary system, in its avatar of inflation, was listed as one of the major worries of insurance executives. Inflation has been a favorite topic of speakers to and from insurance groups. It has been explored in voluminous detail by article after article in the trade press and even in academic journals. No particular good would be served by going over this familiar ground at length. It should be enough to say that, on the one hand, inflation is no Act of God but is the result of governmental acts of omission or commission, and, on the other, that it is not a major problem for insurance unless rates are rigid. The principal charge levied against inflation by insurers is that it raises the prices of everything but insurance. That argument can readily be overcome by raising the price of insurance *pari passu*. Putting the matter another way, this first, naïve formulation of the inflation complaint can be turned inside out to become an argument for flexible rate-making. Then rates could not only be changed instantaneously to cope with economic changes (inflation or deflation) but could even anticipate the changes well in advance. The ability to make such changes at the right times and in the proper amounts would be a measure of the underwriters' skill.

A more complete formulation of the inflation problem for American insurance would take other factors into account, chiefly the persistent bias toward undercapitalization resulting from the statutory reserve requirements. These cause a drain on surplus as new premiums come into the insurers' coffers even if the rates have properly compensated for inflation and even if the lines written are profitable. A reduction of surplus will, *ceteris paribus*, reduce the insurers' capacity. This fact could be used to argue for an abatement of required reserves, but such an argument would be far more difficult to justify than the one for rate flexibility. Other factors would be term policies (written for more than one year) and insurance to value. Both of these are, however, essentially rating problems: in an inflationary period the premium for a five-year policy, for example, would be the discounted present value of *more* than five times the annual premium; and insurance to value could be assured by penalty rates for low coinsurance stipulations and by coinsurance clauses used in all policies. Insurers can solve the problem of inflation either by

(along with other pressure groups) inducing the government to halt it or by restoring to themselves the freedom to cope with it by flexible rating.

The regulatory mechanism is at least as important in its effects on insurance capacity. Trade spokesmen devoted much less attention to it than to inflation until Senator O'Mahoney stirred things up. Even when they did discuss it they used far milder language than in detailing the evils of inflation. Given the symbiotic relationship between insurers and their regulators, that forbearance is understandable. Cynics have compared it with the feeling of a son toward his drunken mother.

The quality of regulation is a major factor in the health of any regulated industry. That quality has been the subject of an extensive and costly inquiry by the United States Senate, already mentioned. After years of hearings and research, the investigating committee published its report. No one with a serious interest in insurance can do without reading the report and its supporting material. The picture he will get of American insurance is far different from that delineated in textbooks or the trade press. The section of the report dealing with present insurance regulation in the United States runs to only a hundred and thirty-eight pages: it should be read in its entirety, and no attempt will be made to summarize it here. A bald listing of the principal points made will do:

(1) Insurance regulation should be a distinct function, not lumped in with others, as it often is in the States.

(2) Insurance commissioners should have some qualifications for their jobs.

(3) Insurance commissioners should not draw pay from the insurers they are regulating.

(4) Insurance commissioners should serve for longer terms.

(5) Insurance commissioners should be better paid.

(6) Insurance department personnel should be better paid.

(7) Insurance departments should be better staffed.

(8) Insurance departments should encourage their personnel to improve themselves.

(9) The system of insurance company examination should be overhauled, especially the practice of having each company pay directly for its own examination.

(10) Insurance department budgets are inadequate for their tasks. Only 4.27 per cent of premium taxes collected are reflected in the departments' budgets.

(11) The discriminatory premium tax system should be re-examined.

(12) The admission and licensing of foreign insurers have not been handled as efficiently as the public interest demands.

(13) The minimum financial requirements for forming new insurance companies are too low in many states.

(14) The minimum financial requirements for operating insurers should be better set.

(15) Mergers of insurers should be more carefully scrutinized.

(16) Insurance company failures have been contributed to by lax examination procedures, inadequate financial requirements, and failure to regulate the companies properly.

(17) State fair-trade and anti-trust laws were not being adequately enforced.

(18) The defects of State regulation noted twenty years before were still uncorrected.[40]

The relation of this regulatory machinery to capacity is simple. The existence of fifty-four separate jurisdictions makes the market more imperfect than

[40] Summarized from Senate Subcommittee on Antitrust and Monopoly, *op. cit.*, pp. 240-247.

it would be with, say, one. The deposit requirements of these jurisdictions impair the ability of insurers to cope with financial crises (which is why the United Kingdom abandoned deposit requirements) and so reduce their willingness to assume risk. Taxes discourage the taxed activity, and thereby tend to diminish capacity. The differences in tax rates between domestic and foreign insurers tend to maintain or increase market imperfections. The fact that catastrophe reserves are not allowed for income tax purposes, makes insurers reluctant to assume risks of low frequency but high severity, since such reserves would have to be accumulated out of after-tax income. And, most important of all, the regulatory system is the means of crystalizing the form and rate rigidities which have already been discussed. It would appear that much of the gap between American insurance's reasonable capacity and its actual capacity is attributable to the regulatory system.

But the institution which has an even greater effect on insurance has been given relatively little attention by industry commentators. To be sure, speakers will occasionally advert to some special aspect of it which they find irritating—like the National Association of Claimants Compensation Attorneys—but it does not often occur to them that the institution of the law as a whole should be examined. The neglect is understandable. The law is a most imposing structure, whether observed in monumental, air-conditioned courtrooms or in the serried ranks of volumes in law libraries. Added must be the fact that insiders—members of the bar—are not in a position to criticise the institution freely or objectively, while outsiders—laymen—generally do not have enough knowledge to do so. One simple fact will illustrate this point, a fact known to lawyers but not mentioned in public by them; the difference between the code of ethics observed by members of the bar in the United States and that in the United Kingdom is so great that, if the English rules were enforced here, it would be necessary to disbar every practicing member of the bar in the United States.

The importance of the law to insurance is plain. Insurance policies are contracts; so, in a sense, all insurance can be considered a subdivision of contract law. From the operational standpoint, what happens in the courts has a great deal to do with the amounts of money paid out by insurers for losses and claims, especially liability claims. That there is a problem with respect to the law and insurance is widely felt: it seems to center about two points, delay and confusion. These generate uncertainty in insurers' minds about the consequences of undertaking contracts of insurance; so they tend to forego risks in accordance with the well-known effects of uncertainty.

The problem of the law's delay is analogous to the problem of organizing American insurance to realize its potential capacity. As Arthur Vanderbilt said, "It is not knowledge of ways and means that we lack; it is the will to put them into effect." [41] Green measured the delay in American courts as varying from one to 52.9 months in State courts and from 4.1 to 39.1 months in Federal courts.[42] The delay is still increasing in the Federal courts, but may be diminishing in the State courts. No one really knows, because the determination of the degree of delay in State courts is hampered by their chaotic administration: they have no particular system of maintaining statistics and records, as do the Federal courts. The best of the Federal district courts, from the standpoint of delay, is in Mary-

[41] Quoted by Chief Justice Warren in 44 *American Bar Association Journal* 1045 (1958).

[42] Milton D. Green, "The Situation in 1959," *Annals of the American Academy of Political and Social Science*, Vol. 328, p. 11. He defines "delay" as the time interval between the point when a case is at issue and the trial.

land; the worst, in Brooklyn. The best of the State courts is Orleans Parish, in Louisiana; the worst, Cook County, Illinois. Such delays increase uncertainty for insurer as well as claimant, and the added uncertainty tends to diminish capacity.

These delays are, by general consent, considered evil: the discussion is about how to reduce them, not whether to reduce them.[43] In a middle category of aspects of the law which insurers do not much like, but which cannot really be taxed as flaws of the institution, are such things as the proliferation of pre-trial procedure, with its heavy cost; the increased use of discovery procedures; statutory extensions of liability;[44] and the steady march of false and exaggerated liability claims. Many things can and should be said about each of these, but not in the present study.

Far more important than these points is the question of whether American courts are able to cope with insurance cases. That such a question must seriously be considered may be seen in the fact that, in a similar area—taxation—one of the justices of the Supreme Court of the United States has been saying publicly that the Supreme Court is not competent to try tax cases, and that its recent decisions prove it. The difficulty judges encounter in trying to understand mercantile problems, among them insurance problems, is of long standing. During the later Middle Ages and early Rennaissance, the ordinary courts in England were acknowledged to be unable to handle mercantile cases intelligently; so special merchant courts and the famous pie-powder courts came into existence. The law merchant developed alongside the common law. Again, when the common law stiffened into rigid patterns, the Lord Chancellor created courts of equity alongside the courts of law. Special insurance courts were also created: England, for example, had one under Elizabeth I.

When judges are confronted with the complexities of insurance contracts, they tend to become irritated and hostile. The earliest insurance cases contain such epithets for policies as "absurd and incoherent documents." Because insurance policies are contracts, judges seem to feel that they *ought* to be able to understand them straightaway. If a contract were to incorporate in its terms the specifications for nuclear reactor, however, the judges would not, perhaps, feel so constrained. Nuclear physics is more involved than insurance, but both involve high-order abstractions not necessarily limpid to judges.

Contemporary judges are not hesitant about saying rude things on the subject of insurance policies. Speaking of the homeowner's policy recently, Judge Gaulkin of New Jersey called it a "collage which represents the triumph of mucilage over mind . . . Not only are the eleven sheets of varying sizes, but they are arranged in bewildering fashion. For example, pages 2, 3, 4, and 5 are attached in reverse order. After some difficulty we discovered that they must be read 5, 4, 3, 2. The remaining sheets are inserted without any rhyme or reason."[45] As an individual opinion, this is unimportant; as a reflection of a point of view, it is worth remembering.

An illuminating instance of the courts' inability to cope with insurance concepts

[43] For a recent discussion, *v.* a compendium of seventeen articles by persons learned in the law, issued as *Lagging Justice*, Vol. 328 of the *Annals of the American Academy of Political and Social Science* (March, 1960).

[44] *E.g.*, Connecticut has a law that a release for bodily injury within fifteen days after the tort, is voidable at the option of the signer. Vermont does not allow consolidation for trial except by consent of all parties, including counter claims. North Carolina allows attorney fees to be assessed on judgments of under $500, but not for successful defendants. *Cf.* E. A. Cowie, "The Growing Cost of Tort Litigation and its Significance to the Public and the Profession," address before the Insurance Section of the American Bar Association, September, 1959.

[45] *National Underwriter*, January 29, 1960.

is found in the labyrinthine Missouri Rate Case.[46] The upshot of the first ten years' litigation was a finding that the proper way of computing loss ratios was by comparing written premiums with paid losses. The courts were unimpressed with the insurance companies' wistful notion that earned premiums should be taken together with incurred losses.

Another interesting case concerned the American Agency System. Persons acquainted with property and casualty insurance in the United States know that a good deal of verbiage and emotion is expended on the subject of the American Agency System each year. The only real point at issue in the case was the American Agency System. Present to testify as expert witnesses were an agent holding a professional insurance designation, an experienced company official, and the leading academic authority on the agency system, author of two books on the subject. As the trial opened, the judge announced that he had been given to understand that the testimony to be offered would refer to something called the "American Agency System." Since the judge had been a lecturer in a law school and had never there or on the bench heard of this thing called the "American Agency System," it manifestly could not exist. He would, therefore, refuse to allow any testimony concerning it to be offered. His interesting ruling was, in due course, upheld by the Circuit Court of Appeals, made up of equally learned Federal judges.

In liability suits, odd decisions are superabundant. Cases of the owners of vehicles not involved in accidents, having judgements levied against them because they are the only insured vehicles on the scene are not uncommon. Trucks that have been struck in the rear by drag racers have also had judgments levied against their insurers.[47] The concept of liability without fault seems to be gaining ground rapidly.

It may be argued that such whimsical rulings are the exception. Instead, a growing conviction on the part of insurance practitioners is that they are regular and frequent. Indeed, it has been suggested that the chief reason for not having short and simple contracts of insurance in the United States is the inability of judges to understand or interpret them.[48] If that is really the state of affairs, then insurers have a definite interest in bettering them. The law should be for insurers what radio beacons are for aircraft pilots: sure guides, dependably operated. If the radio beacons are erratic or whimsically operated, then airliners will crash into one another or run out of fuel in mid-air. If insurers can see no firm guideposts in the law, then their willingness to bear risks will be markedly reduced.

What can be done about it? The insurers collectively have great power: here is an appropriate area for them to use it. Any number of remedial actions might be taken: enforcement of the laws against champerty and barratry; specific inclusion of contingent fees as barratrous;

[46] The Missouri Rate Case has no single citation, since it involved many individual cases beginning in 1922 and not really terminating until the South-Eastern Underwriters decision in 1944. For a summary account, *v.* Ingolf H. E. Otto, National Insurance Companies and the O'Mahoney Investigation," *Annals of the Society of Chartered Property and Casualty Underwriters*, Vol. 12, (January, 1960), pp. 9-36.

[47] For a number of interesting examples of this kind of case, *v.* Clark B. Bristol, address before the Maine Agents Association, September 10, 1959. In one of these cases, he reports, "The company executive said they would pay nothing, but after the judge had shouted profane threats at their attorney and demanded $50,000 or dire consequences, and after they had realized that counsel for the plaintiff was a famous attorney who teaches other lawyers how to set up cases, they decided to refer the matter to one of the largest reinsurance companies in New York whose money was also involved. The president of the reinsuring company . . . considered it would be foolish to try that case."

[48] Senate Subcommittee on Antitrust and Monopoly. *Hearings*, p. 1061.

award by the courts of attorney fees to successful defendants; removal of inept judges; increased use of arbitration instead of courts. There is no limit to the kinds of reform that wait to be explored. As they think about it, the insurers can remember that most legal reform has come from lay groups, not from lawyers and judges. If they can succeed in improving the machinery of the law, they will have, at the same time, much improved the foundation on which insurance rests and will have made possible a great expansion of American capacity.

Summary

1. Using the conservative standards of leading companies, the risk-bearing capacity of American insurance as a whole is about $400,000,000 any one loss.

2. The actual maximum lines written are a fraction of that amount, the size of the fraction depending on the type of cover.

3. The disparity between the two results from imperfections and frictions in the machinery.

   a. Structural rigidities as to classes of cover written.

   b. Premium inadequacies flowing from rate regulation.

   c. Cover rigidities by reason of form regulation.

   d. Market uncertainties derived from insurers' personnel inadequacies.

   e. Market disturbance caused by the inefficiencies of supporting institutions.
      i. The monetary system.
      ii. The regulatory mechanism.
      iii. The law.

Insurers can take remedial action with respect to each of these inadequacies. What is required is vision and statesmanship.

ANALYZING THE EXPENSES INCURRED BY PRIVATE WORKMEN'S COMPENSATION INSURERS

C. Arthur Williams, Jr.*

In any discussion of the advisability of private underwriting of workmen's compensation insurance, consideration eventually turns to the expenses incurred by private insurers in selling and servicing this insurance. Proponents of a state fund insist that private insurers are extravagant and that state funds operate much more economically; proponents of private insurance will argue that private insurance expenses are reasonable and that these expenses compare very favorably with the expenses of a state fund when all factors are taken into account. In order to discuss this topic to the satisfaction of both of these groups as well as those without any *a priori* position, it is necessary (but far from sufficient) to assemble data on the actual expenses incurred within the jurisdiction where the question has arisen.

Unfortunately many different kinds of data are published and unless one is careful in his interpretation of these different types, he may reach some misleading conclusions. In addition, most of the published summary data on expenses is on a national basis. The purpose of this paper is (1) to emphasize some common statistical pitfalls to be avoided, (2) to describe how the expense data were actually assembled for one jurisdiction, and (3) to present these data because they are more comprehensive than those generally published. No attempt will be made to determine whether these expenses are reasonable, whether they result in reduced losses, or how they compare with the expenses incurred by state funds.

Statistical Pitfalls

There are at least four statistical pitfalls to be avoided in analyzing the expenses incurred by private workmen's compensation insurers. Each of these pitfalls is discussed below. Their effect will be illustrated in the section of this article presenting the detailed data.

(1) The standard expense loading in the manual or class rates and experience rates is often equated with the allowance for expenses in workmen's compensation insurance rates.

The standard expense loading is not the expense allowance in workmen's com-

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* The author is deeply indebted to Berton W. Heaton, Secretary, Minnesota Compensation Insurance Board, whose office assembled the data and performed the numerous calculations involved in preparing the tables appearing in this article. The author also profited from discussions with members of the Minnesota Governor's Advisory Committee on Workmen's Compensation Costs and Benefits and the co-chairman of that committee, Professor John G. Turnbull of the University of Minnesota.

pensation insurance rates. In most states, class-rated insureds whose premium is less than $500 must pay an expense constant of $10 unless this would raise the total premium above $500, in which case $500 is charged. As a result, the expense allowance in the premiums paid by these small insureds is greater (in some cases considerably greater) than the standard allowance in the manual rates. On the other hand, an insured whose annual standard premium (almost always an experience-rated premium) exceeds $1000 is entitled to substantial discounts reflecting the relatively smaller expenses incurred in selling and servicing larger insureds. The expense discounts are effected through a separate premium discount plan or as one feature of retrospective rating. Because these larger insureds pay more than 60 per cent of the premiums earned,[1] the effective expense allowance in the total premiums earned is much less than the standard expense loading would lead one to believe.

(2) The standard expense loading less the allowance for profit and contingencies is often confused with the average actual expense ratios incurred by private insurers.

The average actual expense ratios incurred by private insurers are lower than the standard expense loading less the allowance for profit and contingencies, for two reasons. The first has already been mentioned. The expenses associated with servicing the larger insureds, who pay most of the premium, are much less than the standard expense loading would imply. Second, the standard expense loading is based upon the average requirements of non-participating stock insurers.[2] Because participating stock insurers and non-stock insurers have lower expense ratios on the average than non-participating stock insurers, the average actual expense ratios are bound to be less than the standard expense loading less the profit and contingencies factor.

(3) Because of the many different ways in which expense ratios can be computed, they are often misinterpreted.

The most common error in interpreting expense ratios is the failure to recognize that in published sources the expenses (almost always on an incurred basis) are related to different premium bases.[3] The three most common premium bases are (1) premiums written, (2) premiums earned and (3) standard premiums earned. Each of these three figures may also be stated on a "direct basis," i.e., before considering reinsurance assumed and ceded, or on a net basis. The effect of reinsurance will be ignored for the present.

When an insurer is expanding its volume of business, its premiums earned tend to lag behind its premiums written. When the volume of business is declining, the opposite relationship holds true. In computing loss ratios it is generally agreed[4] in insurance circles that the more accu-

[1] Minnesota Compensation Rating Bureau premium size tabulation, policy year beginning November 1, 1952.

[2] Ralph M. Marshall, "Workmen's Compensation Insurance Ratemaking," *Proceedings of the Casualty Actuarial Society*, XLI (November, 1954), 63.

[3] Another error is to assign too much credence to the expense ratio as an indicator of efficiency. A lower expense "ratio may be due to efficiency but it also may be due to skimping on service to insureds or to unwise retrenchment that will show up in later difficulties. A higher ratio may be due to inefficiency, superior service to insureds or careful provision for the future." A. H. Mowbray and R. H. Blanchard, *Insurance*, 4th ed., New York: McGraw-Hill Book Co., 1955, 316. Our concern here, however, is not with the purposes for which the expenses were incurred.

[4] See, for example, G. F. Michelbacher, *Multiple Line Insurance*, New York: McGraw-Hill, 1957, 430-436. Persons outside of insurance circles do not always agree. In their analysis of workmen's compensation, Somers and Somers split the difference between the paid-written ratio and the incurred-earned ratio. H. M. Somers and A. R. Somers, *Workmen's Compensation*, New York: Wiley, 1954, 120-123.

rate premium base is the premiums incurred because this measure is more closely related to the exposure to loss. On the other hand, most expenses, other than loss adjustment expenses, are better related to premiums written rather than premiums earned. This relationship is very clear in the case of commissions, premium taxes and most acquisition, field supervision, and collection expenses. The relationship is less clear in the case of the other expenses but it has been argued convincingly that these expenses are also for the most part a function of the premiums written.[5] Consequently, although perfection is impossible, it is more logical to relate the total expenses (other than loss adjustment expenses) to premiums written than to premiums earned.[6]

In workmen's compensation insurance, however, the written premiums and the earned premiums do not vary as much as in some other lines because (1) the policies are generally written for terms of one-year or less and (2) a considerable portion of the premium is collected after the protection period is over, in which case the premium is written and earned at the same time. Nevertheless, the difference should be examined to determine whether it is significant.

A much more important distinction is that between premiums earned and *standard* premiums earned. In spite of the fact that the latter is a purely fictitious figure, ratios using this premium are often cited by persons who apparently believe that premiums earned and standard premiums earned are synonymous. The standard premium concept is an extremely useful one for rate making purposes but it can be very misleading. If explained properly, however, it can also shed some light on loss and expense ratios.

The standard premium earned is the premium which would have been earned by the insurer if it had not been for the application of premium discounts and retrospective rating. In other words, it is an inflated figure which represents the premium which would have been earned if the rating methods had been limited to manual rating (including the use of loss and expense constants) and experience rating. Expenses related to this premium base can be expected to be substantially smaller than if they were related to premiums earned.

The standard premium relationship, however, is a useful one because it is the correct premium base to use in comparing the actual expense ratio with the standard expense loading plus the 1.5 percentage points contributed by the expense constants.[7] It can also be used to indicate the reduction in premium effected by the expense gradations reflected in the premium discounts and retrospective rating.

The reinsurance problem is a difficult one to handle satisfactorily. Because the method of handling expense reimbursements is not the same under all reinsurance agreements, there is no one proper premium basis. According to James J. Higgins of the New York State Insurance Department,

> "expenses in the absence of quota share or pool agreements should be related to direct premiums written and not to net premiums written. However, where quota share reinsurance is also involved, neither the ratios to net nor to direct premiums are realistic." [8]

A new concept, "Adjusted Direct Premiums Written" has been introduced to handle this problem and is included in

[5] James J. Higgins, "Problems in the Development of Uniform Accounting," *Examination of Insurance Companies*, Vol. 4, New York: New York State Insurance Dept., 1954, 186-190.

[6] Higgins, *op. cit.*, 189. This approach has been adopted in a section of the *Insurance Expense Exhibits* submitted to state insurance departments and by the Alfred M. Best Company, a leading insurance publisher, in its annual *Best's Insurance Reports*.

[7] Marshall, *op. cit.*, 21.

[8] Higgins, *op. cit.*, 191-197.

the *Insurance Expense Exhibits* submitted by each insurer to state insurance departments.

4. The fact that workmen's compensation insurers return to their policyholders a substantial portion of the premiums earned is usually accorded brief recognition at most, either because the important effect of dividends is not recognized or because quantitative summary data are not readily available.

Because most jurisdictions require all workmen's compensation insurers to charge the same initial premiums (except for expense gradations), dividends play a much more important role in this line than in most types of property and liability insurance. Because premiums less dividends represent more accurately the premium income actually required [9] by private insurers to provide workmen's compensation protection, expense ratios computed on this basis should be of some interest.

Estimating the Expense Ratios in One Jurisdiction

During 1960, a special committee appointed by the Governor of Minnesota attemped to determine, among other things, the expenses incurred by insurers writing workmen's compensation insurance in that jurisdiction. The time and effort which could be devoted to this determination were very limited and this limitation affected the methodology which was used. The methodology adopted was very simple but it is described here because (1) the assumptions made in developing the data to be presented later should be made explicit and (2) the description may be useful to other groups facing the same problem. Readers who are not interested in the methodology should skip to the next section.

Initially the group had hoped to determine the Minnesota expenses of the insurers operating in Minnesota. Such data are not available in published reports. Insurers have long maintained that it is almost impossible to determine the expense ratios incurred in a single state and this viewpoint has been accepted by the National Association of Insurance Commissioners. Persons outside the insurance field are less easily convinced, however, and they question the applicability of nationwide data to a single state. The committee members were aware of the time and effort involved in a statewide determination but it is possible that they would, nevertheless, have pressed for such a determination except for a finding contained in a *Report of the Interim Commission on Workmen's Compensation* which was submitted to the Minnesota Legislature of 1953. This Commission, which faced the same problem, had actually caused such a study to be made and found that the state ratios and the countrywide ratios were almost the same.[10]

The committee still insisted, however, that the study be limited to workmen's compensation insurers operating in Minnesota. Two sources of summary data were readily available: (1) the *Insurance Expense Exhibit* compiled each year by the *National Council on Compensation Insurance* and (2) the *Minnesota Casualty Ex-*

[9] Because insurers attempt to maintain a constant dividend policy, the dividends in any year may be greater or less than the underwriting experience that year would justify. For example, see Table 2 in this article. It is still true, however, that to ignore dividends is a greater error.

[10] *Report of the Interim Commission on Workmen's Compensation*, submitted to the Minnesota Legislature of 1953, 23-26. Because of what is apparently a typographical error, this finding is not perfectly clear. However, according to the data provided on page 51 of the report, the 1951 state expense ratio was 31.3 per cent. The Nationwide expense ratio according to Table 2 of this article was 32.3 per cent. Considering the inaccuracies involved in the state allocation, it is reasonable to conclude that the difference is not significant.

perience Exhibit prepared by the Minnesota Compensation Insurance Board, a public agency charged with the regulation of workmen's compensation insurance rates. The committee also had access to the *Casualty Experience Exhibits* which each insurer must submit annually to the Compensation Insurance Board.

The National Council summary exhibit shows for each type of insurer and for all insurers combined, the countrywide net premiums earned, net standard premiums earned, losses incurred, expenses incurred (classified according to major types), statutory underwriting gain or loss, and the effect of the expense gradation in the premium discount and retrospective rating plan. The Minnesota Board summary exhibit presents for each insurer operating in Minnesota, the *countrywide* earned premiums, losses incurred, expenses incurred (classified by type), and statutory underwriting gain or loss. The data are also summarized for stock insurers, non-stock insurers, and all insurers combined. The individual *Casualty Experience Exhibits* show for each insurer its Minnesota direct premiums written, premiums earned, standard premiums earned and losses incurred. Dividend information had to be obtained from the annual statements submitted to the state insurance department. Because of time limitations, the decision was made to use direct premiums from the *Casualty Experience Exhibits* instead of adjusted direct premiums. The error introduced is probably slight.

Using these data, Tables 2 and 3 were developed as follows. First, the insurers operating in Minnesota were divided into three groups: participating stock insurers, non-participating stock insurers, and mutual insurers.[11] Second, on the basis of data in the individual *Casualty Experience Exhibits*, the ratio of the Minnesota losses incurred to the Minnesota premiums earned was computed for each type of insurer and for all insurers combined. Third, for each insurer the Minnesota expenses in each major category were obtained from the Minnesota premiums earned, on the assumption that the nationwide expense ratios in the Minnesota summary exhibit applied to Minnesota business. These expenses were then totalled for each type of insurer and for all insurers combined and divided by the corresponding Minnesota premiums earned to obtain the expense ratios on that premium base. Fourth, the Minnesota statutory underwriting gain or loss was calculated as the difference between 100 per cent and the sum of the loss and expense ratios. Fifth, information concerning the workmen's compensation insurance dividends paid by these insurers in Minnesota was obtained from the annual statements. These dividends were summed and related to the earned premiums in the same manner as the expenses.

Tables 4 and 5 differ from Tables 2 and 3 in that the items are related to the standard premiums earned instead of the premiums earned. Most entries in this table were obtained by multiplying the corresponding entry in Tables 2 and 3 by the ratio of the Minnesota premiums earned to the Minnesota standard premiums earned for the appropriate group of insurers. The expense gradation figures, however, had to be obtained from the National Council exhibit.[12] This was in fact the only use made of that exhibit. The nationwide expense gradation ratios for each type of insurer were assumed to apply in Minnesota [13] and the ratio for all

[11] The writings of two reciprocal exchanges are included in the compilations for all types of insurers but because of the very small volume of business written by these two insurers, the separate ratios for these insurers are omitted from the tables.

[12] The National Council ratios are based upon net standard premiums but the error introduced because of this discrepancy is very slight.

[13] This assumption was checked against policy year data available on the effect of premium discounts, but not retrospective rating, in Minne-

TABLE 1

MINNESOTA EXPENSE LOADING BY PREMIUM SIZE
(Effective October 1, 1956)

STOCK INSURERS

	Standard Premium* Size			
Expense Item	*$0-1000†*	*Next $4000*	*Next $95,000*	*Over $100,000*
Acquisition	17.5%	12.5%	7.5%	6.0%
Gen. Admin. and Audit	6.7	3.5	3.5	3.0
Profit and Contingencies	2.5	2.3	2.15	2.1
Taxes	2.5	2.3	2.15	2.1
Claim Adjustment	8.2	8.2	8.2	8.2
Inspection and Bureau	2.6	2.6	2.6	2.6
Total	40.0%	31.4%	26.1%	24.0%
Premium Discount Percentage	0	8.5%	14.0%	16.0%

NON-STOCK INSURERS

	Standard Premium* Size			
Expense Item	*$0-1000†*	*Next $4000*	*Next $95,000*	*Over $100,000*
Acquisition and Administration and Audit	24.2%	21.5%	18.6%	16.6%
Profit and Contingencies	2.5	2.4	2.35	2.3
Taxes	2.5	2.4	2.35	2.3
Claim Adjustment	8.2	8.2	8.2	8.2
Inspection and Bureau	2.6	2.6	2.6	2.6
Total	40.0%	37.1%	34.1%	32.0%
Premium Discount Percentage	0	3.0%	6.0%	8.0%

* The standard premium is the class premium or experience-rated premium.
† An expense constant of $10 is added when the premium is less than $500.

insurers was determined by multiplying the Minnesota standard premium for each group by its expense gradation ratio, summing the expense gradations over all types of insurers, and dividing the sum by the total Minnesota standard premium for all insurers.

Table 6 was computed from Table 3 by multiplying each of the expense figures other than the loss adjustment expense by the ratio of the Minnesota premiums earned to the Minnesota premiums written for the appropriate group of insurers.

Expenses Incurred by Private Insurers Writing Workmen's Compensation Insurance in Minnesota

The data assembled by the Committee in its analysis of the expenses of private workmen's compensation insurers in Minnesota are presented in this section.

The standard expense loading in the Minnesota rates and the effect of the premium discount plan upon this loading are illustrated in Table 1. The effect of the expense gradation feature in retrospective rating is essentially the same.[14]

All of the remaining tables show the actual expense ratios of these insurers from 1949 to 1959 inclusive. Tables 2 and 3 relate the expenses to an earned premium base while Tables 4 and 5 use a standard premium base. Table 6 relates the expenses to a written premium base.

The expenses for each type of insurer and all insurers combined, dropped rather sharply from 1951 to 1952. This drop occurred primarily because the Minnesota Compensation Insurance Board in 1951 in-

sota. The results are in accordance with the assumption.

[14] The differences relate to the loss adjustment expenses and the taxes which under retrospective rating are related to the losses incurred and the retrospective premium respectively.

TABLE 2

RATIOS OF MINNESOTA INCURRED LOSSES, EXPENSES,[1] AND DIVIDENDS TO MINNESOTA EARNED PREMIUM, BY TYPE OF INSURER, 1949 - 1959.

ALL INSURERS

	Premiums Earned	*Per Cent of Premiums Earned*			
	$	*Losses*	*Expenses*	*Total*	*Dividend*
1949	14,208,505	57.3	32.4	89.7	10.7
1950	13,616,561	64.2	33.6	97.8	9.8
1951	15,587,337	70.7	32.3	103.0	7.6
1952	17,510,081	61.6	30.9	92.5	7.2
1953	19,935,288	63.8	30.9	94.7	6.7
1954	20,809,079	62.6	31.3	93.9	6.7
1955	22,614,918	61.9	31.5	93.4	6.4
1956	25,309,597	62.5	32.1	94.6	6.5
1957	26,492,925	63.4	32.2	95.6	7.8
1958	28,598,813	58.8	32.4	91.2	6.6
1959	29,719,416	67.9	32.2	100.1	7.1

NONPARTICIPATING STOCK INSURERS

	Premiums Earned	*Per Cent of Premiums Earned*		
	$	*Losses*	*Expenses*	*Total*
1949	5,447,570	64.8	38.7	103.5
1950	5,392,945	65.1	40.9	106.0
1951	6,442,231	72.9	38.6	111.5
1952	7,220,903	60.7	36.5	97.2
1953	8,295,232	62.6	36.1	98.7
1954	8,671,052	63.3	36.2	99.5
1955	9,973,868	59.0	36.2	95.2
1956	11,148,642	61.0	36.7	97.7
1957	11,382,742	70.0	36.7	106.7
1958	12,346,029	59.7	36.1	95.8
1959	12,027,815	70.0	36.4	106.4

PARTICIPATING STOCK INSURERS

	Premiums Earned	*Per Cent of Premiums Earned*			
	$	*Losses*	*Expenses*	*Total*	*Dividend*
1949	1,967,928	47.1	29.6	75.9	11.6
1950	1,807,669	63.0	33.8	96.8	9.5
1951	2,008,290	65.9	38.4	104.3	8.9
1952	2,213,214	56.2	36.0	92.2	9.4
1953	2,342,599	64.3	34.7	99.0	7.6
1954	2,520,193	71.4	30.5	101.9	7.1
1955	2,613,648	73.6	32.7	106.3	7.0
1956	2,778,324	52.3	32.4	84.7	7.5
1957	3,142,513	72.0	32.2	104.2	10.0
1958	3,319,456	49.0	33.0	82.0	9.1
1959	3,792,245	62.7	32.4	95.1	8.5

MUTUAL INSURERS

	Premiums Earned	*Per Cent of Premiums Earned*			
	$	*Losses*	*Expenses*	*Total*	*Dividend*
1949	6,762,319	54.4	23.2	77.6	19.0
1950	6,380,311	63.3	24.1	87.4	18.4
1951	7,047,228	70.7	23.9	94.6	14.2
1952	7,996,874	64.2	22.7	86.9	13.2
1953	9,178,582	64.5	23.0	87.5	12.6
1954	9,540,820	59.4	23.5	82.9	12.8
1955	9,937,370	61.5	24.0	85.5	12.8
1956	11,265,552	66.8	24.7	91.5	12.7
1957	11,864,993	55.1	24.8	79.9	14.7
1958	12,886,543	60.3	25.7	86.0	12.1
1959	13,826,461	67.6	25.0	92.6	12.4

[1] Expense data is nationwide converted to Minnesota based on the assumption that the nationwide ratios would hold for Minnesota.

Source: *Casualty Experience Exhibits*, Minnesota Compensation Insurance Board.

TABLE 3

RATIOS OF MINNESOTA INCURRED LOSSES, EXPENSES BY EXPENSE COMPONETS,[1] AND UNDERWRITING GAIN OR LOSS TO EARNED PREMIUM, BY TYPE OF INSURER, 1959 AND 1949

	Non-participating Stocks		*Participating Stocks*		*Mutuals*		*All Insurers*	
	1959	*1949*	*1959*	*1949*	*1959*	*1949*	*1959*	*1949*
Incurred Losses	70.0	64.8	62.7	47.1	67.6	54.4	67.9	57.3
Loss Adjustment Expense	9.2	8.1	8.6	8.7	8.0	6.4	8.7	7.5
Commissions and Brokerage	12.2	13.9	11.9	9.0	2.0	2.3	8.7	9.3
Other Acquisition Expense	3.0	4.0	3.6	3.2	5.2	5.1	3.8	4.4
General Expense	8.3	8.9	5.4	6.1	6.6	6.3	7.5	7.7
Taxes, Licenses and Fees	3.7	3.8	2.9	2.6	3.2	3.1	3.5	3.5
Total Expense Incurred	36.4	38.7	32.4	29.6	25.0	23.2	32.2	32.4
Underwriting Gain or Loss	−6.4	−3.5	4.9	23.3	7.4	22.4	− .1	10.3
Dividends	—	—	8.5	11.6	12.4	19.0	7.1	10.7

[1] Expense data is nationwide converted to Minnesota experience on the assumption that nationwide ratios would hold for Minnesota.

Source: *Casualty Experience Exhibits*, Minnesota Compensation Insurance Board.

serted a profit and contingencies factor in the expense loading for the first time. This action had the effect of increasing the premium volume and consequently decreasing the expense ratios. Because of this lack of comparability, the following observations based upon the tables will be restricted unless otherwise stated, to post-1951 experience.

(1) The annual ratios of Minnesota expenses incurred to premiums earned for all insurers ranged from 30.9 per cent to 32.4 per cent over the period 1952-1959. This is considerably less than the 40.0 per cent standard expense loading less the 2.5 per cent profit and contingencies factor. From this point on, the term standard expense loading will refer to the 37.5 per cent allowance for expenses only.

(2) The annual ratios of Minnesota expenses incurred to standard premiums earned for all insurers ranged from 29.4 per cent to 30.3 per cent. It is this ratio which is more logically compared with the standard expense loading plus the 1.5 percentage points contributed by the expense constants.

(3) One major reason why the expense ratios on a standard premium base are much less than the standard expense loading is the relatively lower expenses incurred in insuring large insureds. These reduced expenses are recognized in premium discount and retrospective rating plans. The effect of these expense gradation plans ranged from 2.8 to 4.6 per cent of standard premiums.

(4) Non-participating insurers do require approximately the amounts provided in the standard expense loading.[15] Their expense ratios on a standard premium base plus the effect of their expense gradation plans, produce ratios which are almost the same as the standard expense loading plus the 1.5 percentage points produced by expense constants. In 1959, for example, the resulting ratio was 38.7 per cent. It would not be possible to make this observation if one had only the ratios computed on an earned premium base

[15] As stated earlier, no opinion is expressed in this article concerning the reasonableness of these requirements. That would require a more exhaustive study than has been possible up to this time.

The acquisition allowance is a "budgeted" item. Instead of being based upon what the insurers have done, it is supposed to be established at a "reasonable" level. Consequently a more accurate comparison would omit this item.

It should also be noted that the nationwide ratio of taxes, licenses, and fees exceeds the Minnesota ratio. Consequently the Minnesota expense ratio of non-participating stock insurers is not as close to 39.0 per cent as the tables indicate.

TABLE 4

RATIOS OF MINNESOTA INCURRED LOSSES, EXPENSES,[1] EXPENSE GRADATION EFFECT AND DIVIDENDS TO MINNESOTA STANDARD PREMIUM, BY TYPE OF INSURER, 1949 - 1959.

ALL INSURERS

	Standard Premiums Earned	*Per Cent of Standard Premiums Earned*				
	$	*Losses*	*Expenses*	*Expense Gradation*[2]	*Total*	*Dividen*
1949	14,939,067	54.5	30.8	3.0	88.3	10.2
1950	14,473,044	60.4	31.6	3.4	95.4	9.3
1951	16,217,338	68.0	31.0	3.3	102.3	7.3
1952	18,171,428	59.4	29.7	3.5	92.6	7.0
1953	20,947,906	60.7	29.4	2.8	92.9	6.4
1954	21,951,431	59.3	29.7	4.0	93.0	6.4
1955	24,023,708	58.2	29.6	4.1	91.9	6.1
1956	26,940,204	58.8	30.2	4.1	93.4	6.2
1957	28,897,292	58.2	29.6	3.9	91.7	7.2
1958	30,975,879	54.3	29.8	4.6	88.7	6.1
1959	31,616,748	63.8	30.3	4.3	98.4	6.7

NONPARTICIPATING STOCK INSURERS

	Standard Premiums Earned	*Per Cent of Standard Premiums Earned*			
	$	*Losses*	*Expenses*	*Expense Gradation*	*Total*
1949	5,778,288	61.1	35.6	3.5	100.2
1950	5,882,093	59.7	37.6	4.1	101.4
1951	6,764,093	69.5	35.5	4.0	109.0
1952	7,459,067	58.7	33.6	4.0	96.3
1953	8,787,819	59.1	33.2	4.3	97.6
1954	9,392,047	58.5	33.3	4.8	96.6
1955	10,846,213	54.2	33.3	4.9	92.4
1956	12,296,471	54.8	33.8	5.0	93.6
1957	13,051,034	61.0	33.8	4.8	99.6
1958	13,813,071	53.4	33.2	5.3	91.9
1959	13,137,836	64.1	33.5	5.2	102.8

PARTICIPATING STOCK INSURERS

	Standard Premiums Earned	*Per Cent of Standard Premiums Earned*				
	$	*Losses*	*Expenses*	*Expense Gradation*	*Total*	*Dividend*
1949	2,108,562	44.0	26.1	2.7	72.8	10.7
1950	1,936,245	59.7	31.8	3.1	94.6	8.8
1951	2,107,065	62.9	36.1	2.6	101.6	8.5
1952	2,335,888	53.3	33.8	2.1	89.2	8.9
1953	2,477,165	60.8	32.6	2.4	95.8	7.2
1954	2,673,884	67.3	28.7	2.3	98.3	6.7
1955	2,821,962	68.2	30.7	1.9	100.8	6.5
1956	2,930,864	49.6	30.5	2.5	82.6	7.1
1957	3,314,492	68.3	30.3	1.9	100.5	9.5
1958	3,645,563	44.6	31.0	2.5	78.1	8.3
1959	4,053,533	58.7	30.5	2.3	91.5	7.9

MUTUAL INSURERS

	Standard Premiums Earned	*Per Cent of Standard Premiums Earned*				
	$	*Losses*	*Expenses*	*Expense Gradation*	*Total*	*Dividend*
1949	7,018,868	52.4	20.5	2.7	75.6	18.3
1950	6,617,436	61.0	22.4	2.9	85.3	17.7
1951	7,263,549	68.6	22.2	2.9	93.7	13.8
1952	8,292,355	62.0	21.1	3.3	86.4	12.7
1953	9,536,738	62.0	21.4	3.4	86.8	12.2
1954	9,782,540	57.9	21.9	3.8	83.6	12.5
1955	10,236,990	59.7	22.3	3.8	85.8	12.4
1956	11,580,542	65.0	23.0	3.5	91.5	12.5
1957	12,399,453	51.8	23.1	3.7	78.6	14.1
1958	13,433,910	57.9	23.9	4.1	85.9	11.6
1959	14,310,657	65.3	23.3	4.0	92.6	11.9

[1] Expense data is nationwide converted to Minnesota based on the assumption that the nationwide ratios would hold for Minnesota.

[2] Based on the experience of all insurers operating in the United States but the ratio for *all* insurers reflects the standard premium written by each of the four types in Minnesota.

Source: *Insurance Expense Exhibits*, National Council on Compensation Insurance. *Casualty Experience Exhibits*, Minnesota Compensation Insurance Board.

TABLE 5

RATIO OF MINNESOTA INCURRED LOSSES, EXPENSES BY EXPENSE COMPONENT,[1] EFFECT OF EXPENSE GRADATION TO STANDARD EARNED PREMIUM, BY TYPE OF INSURER, 1959 AND 1949

	Non-participating Stocks		*Participating Stocks*		*Mutuals*		*All Insurers*	
	1959	*1949*	*1959*	*1949*	*1959*	*1949*	*1959*	*1946*
Incurred Losses	64.1	61.1	58.7	44.0	65.3	52.4	63.8	54.5
Loss Adjustment Expense	8.5	7.4	8.1	7.5	7.5	5.7	8.2	7.1
Commissions and Brokerage	11.3	12.8	11.2	8.0	1.9	2.0	8.2	8.9
Other Acquisition Expense	2.7	3.7	3.4	2.8	4.8	4.4	3.6	4.1
General Expenses	7.6	8.2	5.1	5.4	6.1	5.6	7.1	7.4
Taxes, Licenses and Fees	3.4	3.5	2.7	2.4	2.9	2.8	3.2	3.3
Total Expense Incurred	33.5	35.6	30.5	26.1	23.3	20.5	30.3	30.8
Effect of Expense Gradation[2]	5.2	3.5	2.3	2.7	4.0	2.7	4.3	3.0
Total—Expenses Incurred Plus Effect of Expense Gradation	38.7	39.1	32.8	28.8	27.3	23.2	34.6	33.8
Dividends	—	—	7.9	10.7	11.9	18.3	6.7	10.2

[1] Expense data is nationwide converted to Minnesota experience on the assumption that nationwide ratios would hold for Minnesota.

[2] Based on the experience of all insurers operating in the United States but the ratio for all insurers reflects the standard premium written by each of the four types in Minnesota.

Source: *Insurance Expense Exhibits*, National Council on Compensation Insurance. *Casualty Experience Exhibits*, Minnesota Compensation Insurance Board.

because the earned premium bases are reduced through the operation of the expense gradation plans.

(5) The second and equally important reason why the expense ratios for all insurers computed on a standard premium base are less than the standard expense allowance is the fact that over half of the workmen's compensation insurance in Minnesota is written by insurers whose expense requirements are less than those of non-participating stock insurers. On a standard premium basis, the expense ratios of participating stock insurers have averaged about 3-4 percentage points lower than those of non-participating stock insurers. The mutual ratios have averaged about 11 percentage points lower.

(6) The lower expense ratios of mutuals and participating stock insurers are explained principally by differences in acquisition cost but these insurers also appear to have an advantage with respect to the other expense items. The acquisition costs on a standard premium basis for non-participating stocks, participating stocks and mutuals are about 14-17 per cent, 11-15 per cent, and 6-7 per cent respectively.

(7) The expense ratios for all insurers combined on all premium basis have increased *very slightly* over the period, the primary reason being a small increase in the mutual insurers' expense ratio.

(8) Expressing the expenses other than loss adjustment expenses in terms of premiums written instead of premiums earned does make a difference but the effect is slight. For all insurers combined, the 1949 expense ratio on this basis was 31.9 per cent which is less than the 32.4 per cent computed on an earned basis. In 1959 the corresponding two ratios were 31.4 per cent and 32.2 per cent. The relationship among the types of insurers was changed only slightly because the ratio of written premiums to earned premiums was about the same for each type.

(9) Dividends averaged about 7 per cent of premiums earned by all types of insurers. Mutuals usually returned in dividends about 12-13 per cent of their premiums earned while participating stock

insurers usually returned about 7-9 per cent.

(10) The ratio of expenses incurred to premiums earned less the dividends paid has been about 35 per cent. This figure represents the expenses of the insurers relative to the net cost to the insureds.

A Final Observation

Value judgments will necessarily play an important role in resolving the issue of private insurance versus state funds in a particular jurisdiction, but a careful analysis of the expenses of private workmen's compensation insurers (and state funds) will help to prevent those judgments from being based upon false information with respect to the relative expenses of each type of insurer. It is hoped that this paper will contribute to such more careful analyses.

TABLE 6

RATIO OF MINNESOTA EXPENSES INCURRED TO MINNESOTA PREMIUMS WRITTEN, BY EXPENSE COMPONENTS [1] AND BY TYPE OF INSURER, 1949 AND 1959

	Non-participating Stocks		*Participating Stocks*		*Mutuals*		*All Insurers*	
	1959	*1949*	*1959*	*1949*	*1959*	*1949*	*1959*	*1949*
Loss Adjustment Expense [2]	9.2	8.1	8.6	8.7	8.0	6.4	8.7	7.5
Commissions and Brokerage	12.0	13.7	11.9	8.6	1.9	2.3	8.4	8.0
Other Acquisition Expense	2.9	3.9	3.6	3.1	4.9	5.0	3.7	4.3
General Expense	8.1	8.8	5.4	5.8	6.2	6.2	7.2	7.5
Taxes, Licenses and Fees	3.6	3.8	2.9	2.5	3.0	3.0	3.4	3.4
Total Expense Incurred	35.9	38.3	32.3	28.8	24.1	22.9	31.4	31.9

[1] Expense data is nationwide converted to Minnesota experience on the assumption that nationwide ratios would hold or Minnesota.

[2] Related to premiums earned.

Source: *Casualty Experience Exhibits*, Minnesota Compensation Insurance Board.

THE MEASUREMENT OF RISK

ROBERT A. RENNIE

The occurrence of risk, the estimation of risk, and the avoidance of unnecessary risk must have been a concern of man from his most primitive days. But it is rather surprisingly the fact that the quantitative and precise measurement of risk is, in terms of man's long experience with risk itself, a comparatively recent affair.[1]

A similar lag seems to exist in the application of quantitative principles to the practice, technic, and theory of corporate risk measurement. The purpose of this paper is to suggest two new approaches to such measurement which may aid in closing the gap. The first proposal would relate risk measurement more closely to the essential decision-making processes of the firm. A second suggestion calls for more precise and extensive use of probability and sampling theories in corporate risk measurement. Discussion will be limited to these two areas, and no attempt will be made to present a comprehensive analysis of all phases of risk measurement.

Risk, Uncertainty, and Business Enterprise

Few people disagree on the significance of risk to the business firm, or on the need for its control or mitigation. John Kenneth Galbraith, for example, writes,

> . . . the development of the modern business enterprise can be understood only as a comprehensive effort to reduce risk. It is not going too far to say that it can be understood in no other terms.[2]

Peter F. Drucker has expressed a similar viewpoint:

> One of the greatest achievements of the mercantile age was the conversion of many of these physical risks into something that could be predicted and provided against. It is no exaggeration to say that without insurance an industrial economy could not function at all.[3]

But there appears to be no similar agreement on the scope and definition of risk. Galbraith was referring to speculative risks,—to the ability of corporate executives to control shifts in consumer taste and demand through advertising; to seek protection through diversification of product line; and to keep abreast of technological change through research and development activities.

Drucker, in this context, was referring to physical risks which lend themselves to the formal calculus of probability. A generation ago, Professor Frank H. Knight stressed the distinction between such risks,—between insurable risks, on the one hand, and non-insurable uncertainty, on

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[1] Warren Weaver, "Probability and Statistics, the Mathematical Way of Estimating Risk" in *Facing the Future's Risks.* Lyman Bryson, ed., (New York, Harper & Brothers, 1952), p. 34.

[2] John Kenneth Galbraith, *The Affluent Society,* (Houghton Mifflin Company, Boston, 1958), p. 101.

[3] Peter F. Drucker, *The New Society, The Anatomy of the Industrial Order* (Harper and Brothers, New York, 1950), p. 57.

the other.[4] Risk refers to the possible outcome of action, specifically to the loss that might be incurred if a given action is undertaken; uncertainty refers to management's confidence in its own estimates or expectations. Risk arises from changes that can be foreseen or predicted in accordance with the laws of probability, whereas uncertainty involves situations that are unforeseen or unpredictable. Irving Pfeffer has further clarified the distinction by stating that risk is a combination of hazards and is measured by objective probability whereas uncertainty is measured by a subjective degree of belief.[5]

Professor Knight used this distinction to develop a profit theory of the firm which linked non-insurable uncertainty to rapid economic change—the main source of uncertainty—and to differences in management ability.[6] He pointed out that such differences in ability are much more relevant to the explanation of profits and losses in times of rapid economic change than they would be otherwise.

Insurable risks, on the other hand, can yield no profits because the burden of bearing the risks "can be avoided by the payment of a small fixed cost limited to the administrative expense of providing insurance."

It would appear that this distinction between risk and uncertainty has become too static. Too rigid a difference is made between the uncertainty-bearing functions of top management and the risk-management functions of corporate risk managers. This applies particularly to distinctions "between risk that is incurred by the individual or the business concern in the hope of reward and risk that is incidental to other activities or relationships."[7]

Professor Knight himself clearly foresaw the time when some of today's subjective uncertainties might become tomorrow's determinate risks, capable of being handled on an actuarial basis. He has stated, "When the technique of business organization has reached a fairly high stage of development a known degree of uncertainty is practically no uncertainty at all, for such risks will be borne in groups large enough to reduce the uncertainties to substantially negligible proportions.[8] Some of the Insured Chronological Stabilization Plans indicate to some extent how far it is possible to go in this direction. And when risk managers acquire the knowledge or the ability to measure the *chance* of an unpredictable change, it becomes a risk rather than an uncertainty.

Not only has the possibility of converting uncertain events into objective risks been neglected, but, conversely, the ability of risk managers and insurers to measure the risk inherent in specific situations, through the application of formal actuarial principles, has often been overstated. The objective probabilities of loss are not so readily measured as we have often been led to believe. Actually, the dichotomy of risk and uncertainty may have outlived its usefulness within this context.[9]

[4] Frank H. Knight, *Risk, Uncertainty, and Profit* (Houghton Mifflin Company, New York, 1921). *Cf.* also Frank H. Knight, *On the History and Methods of Economics* (The University of Chicago Press, Chicago, 1956), p. 11.

[5] Irving Pfeffer, *Insurance and Economic Theory* (Richard D. Irwin, Inc., Homewood, Illinois, 1956), pp. 42, 179.

[6] Frank H. Knight, *Risk, Uncertainty, and Profit*, pp. 42-48.

[7] Albert H. Mowbray and Ralph H. Blanchard, *Insurance, Its Theory and Practice in the United States* (McGraw-Hill Book Co., Inc., N.Y., 4th ed., 1955), p. 533.

[8] Frank H. Knight, in *Readings in Risk and Risk Bearing*, Charles O. Hardy, ed. (The University of Chicago Press, Chicago, 1924), p. 18.

[9] In the balance of this paper, Makower and Marschak's definition of these terms is adopted. They define risk as "the dispersion of the frequency distribution of alternative future events." Uncertainty denotes "the fact that risk exists, i.e. that no event is assigned the probability 1 (and therefore the dispersion is greater than

Any business enterprise is faced with varying degrees of uncertainty in dealing with both insurable and non-insurable classes of risk. Uncertainty varies both as to the amount of the losses which could possibly eventuate and as to the estimate of the probability that these losses will actually occur. For any specific risk, this uncertainty may range across the spectrum from complete lack of knowledge as to whether a given loss will possibly eventuate, to virtual certainty that it might occur. The same risk may be subject to a similar range of uncertainty surrounding the estimates of the probability of actual loss.

The significant fact to be noted is that the parameters of the probability distributions of all corporate risks are estimated with differing degrees of confidence. It is the function of risk management not only to improve the accuracy of those estimates, but also to reduce the elements of uncertainty in management's estimates or expectations.

Risk Management and Corporate Objectives

The question now arises as to the relation of risk measurement to corporate objectives. At the outset, the viewpoint is here advanced that growth is the dominant motivation of modern corporate management. This hypothesis of revenue maximization is receiving increased public recognition, both in business and academic circles.[10] The primacy of growth is not necessarily in conflict with the businessman's desire to increase profits because that objective may be achieved most readily through the growth of the firm.

If growth is a leading management objective, it is equally clear that risk and uncertainty are major barriers limiting such growth.[11] The more ambitious the plans for expansion, the greater will be the physical risks and uncertainties of future events.

The prospects for expanded revenues are likely to be offset in part by the effects of risk and uncertainty. Management must take into consideration not only the risk involved in its expansion plans, but also the effect of the uncertainty with which it views its estimate of the risk involved. It probably makes allowance for such risk in its income and cost calculations by using lower estimates of income and higher estimates of cost than those it considers most likely to prevail. The result is a reduction in profit at every level of output, and in consequence a reduction in planned expansion.

Moreover, management is subject to the "principle of increasing risk."[12] This principle states that as a firm expands its investment, the risk to it of a given chance of loss becomes more serious with each increment of investment. As commitments are extended through expansion, the firm's liquidity position may become precarious, and its ability to raise additional funds is also jeopardized.

The analysis to this point assumes that management is a passive "risk bearer" which can do nothing to reduce the risk or uncertainty involved in any program of expansion. Such risk, it assumes, places an inflexible limit to expansion, and management must adjust to it. But we know that

zero)." Helen Makower and Jacob Marschak, "Assets, Prices and Monetary Theory," *Economica*, 1938, reprinted in George J. Stigler and Kenneth E. Boulding (eds.), *Readings in Price Theory*, Vol. VI (Homewood, Ill., Richard D. Irwin, Inc., 1952), p. 293 n. 12.

[10] *Cf.*, for example, William J. Baumol, *Business Behavior, Value and Growth* (The Macmillan Company, New York, 1959), pp. 45-53.

[11] Edith Tilton Penrose, *The Theory of the Growth of the Firm* (John Wiley & Sons, Inc., New York, 1959), pp. 56-64.

[12] M. Kalecki, "The Principle of Increasing Risk," *Economica*, New Series, Vol. IV (November 1937), pp. 440-447. This principle is readily recognized as one adaptation of Daniel Bernoulli's treatment of the *Petersburg Paradox*.

this is not the only course of action open to management. Through better risk measurement, undertaken by personnel trained to mitigate or transfer risk and to reduce uncertainty, management can extend its plans for expansion and achieve more fully one of its primary corporate objectives.

Expanding Functions of Risk Management

Risk management is generally conceived to be a relatively autonomous function within the corporation. The risk manager is expected to make a cross-sectional survey of the operations of the firm, and to analyze and record all risks to which the company is exposed. This process may consist of checking each of the company's assets, processes and personnel systematically against a checklist of perils. Sometimes the procedure is reversed, but the objective is the same: to identify and measure the significant exposures in terms of potential loss to the company.

Unfortunately, this conception of risk management does not meet the needs of the modern corporation. In actual fact, it merely formalizes more or less the traditional methods of handling risks, and traces its lineage to an epoch when *ad hoc* decisions regarding risk were triggered by expiring insurance policies or the overtures of a new insurance agent. While a periodic inventory of exposures may be adequate for the relatively static firm, it cannot fit the enterprise whose policies are geared to expansion and innovation.

One of the hallmarks of the modern American corporation is its willingness to take risks. Its management is known for the ability to respond creatively to new situations. The extensive programs of research and development have brought innovations, and have made obsolete much of the equipment inherited from the past. And in a comparable manner, the modern corporation has brought complex new risks, and has made obsolete many of the ingrained practices of risk management as they are outlined in the manuals.

But effective enterprise includes more than the willingness to take risks; it also includes the willingness to search for new methods of avoiding risk while in the process of innovating and expanding. This explains, in part, the current management interest in "operations research," in "systems analysis," and in the theory of games.

Management is attempting through these techniques to reduce all major risks to probability forecasts in a systematic manner. Uncertainty-bearing is a painful process, and businessmen have not been content to let uncertainties remain as "a subjective degree of belief." To the extent that business can reduce uncertainties to statistical risks, they can be handled as a routine cost of doing business even though the margin of error may be fairly large.

It is suggested that there is no essential difference in principle between the risk-reduction goals of the systems analyst and the objectives of the risk manager. It is further held that the corporate risk manager should become the staff specialist in analyzing, measuring and distributing all business risks in such a way as to achieve the firm's risk-reduction objectives. The risk manager's estimate of risk should be an integral part of the input of information which top management uses to make its decisions relative to innovation and expansion.

To the extent that the risk manager can improve his techniques for measuring risk, and to the extent that he can reduce uncertainty, he can extend the growth horizons of the firm. Such a role for the risk manager will be more difficult to perform; he must evaluate the risks relating to assets that are not yet in place, to proc-

esses that are still in the blueprint stage, and to personnel who are not yet employed. But it is a function vital to the decision-making process of the modern corporation. If the risk manager shuns this opportunity to broaden his conception of risk management within the firm, he may find that he has become a minor functionary, performing routine tasks specified in "risk reduction" systems developed by other specialists. If, on the other hand, he extends his risk management responsibilities in an attempt to evaluate and quantify all risks faced by the firm, in terms of predictable relationships, he may find that he is an essential part of tomorrow's top team of professional business executives.

A More Rigorous Approach to Risk Measurement

The risk manager's first step in extending his management functions is to refine his techniques for measuring risks. The literature of risk management shows a few rough-and-ready guides to the measurement of risk. Various methods are currently used to perform this function. One of the most consistent approaches has been suggested by the Machinery and Allied Products Institute for its membership.[13] It calls for the preparation of a definite schedule of exposures of the firm. Each exposure is assigned a discrete frequency rating as follows: "definite" (happens regularly); "moderate" (happens once in a while); "slight" (could happen, but hasn't); and "none" (could not happen). The exposures are then rated in terms of dollars of potential loss on a three-fold basis:

1. *Annual expected loss*

   Estimate reflects the average annual recurring losses for each exposure which are currently being experienced. This estimate is applicable, of course, only to those exposures which have regular annual loss experience.

2. *Maximum probable loss*

   Estimate reflects the largest loss which has a fair chance of occurring "more than once in 40 years."

3. *Maximum possible loss*

   Estimate reflects the largest single loss which conceivably might occur "once in a lifetime of a business."

This method aims in a general way at securing an approximate measure of the total risk faced by the corporation, both in terms of the frequency of losses and the extent and character of the losses which may eventuate. Such total risk is calculated "by multiplying each loss which could possibly eventuate by the probability that this loss will actually occur, and then adding all these products."[14] In more rigorous terms, this value can be secured by estimating the probability density functions of pure premiums for all risks. These functions, in turn, are joint functions of the frequency and the cost probability density functions of the risks.[15] This paper now will endeavor to outline the nature and the use of these functions in corporate risk management.

No attempt will be made to minimize the practical difficulties of assembling adequate data and of trying to estimate, the probability of occurrence of losses or the amount of the separate possible losses as they apply to the average business firm. Nor will it be claimed that statistical theory and practice that is based upon stochastic concepts is an easy subject. But the basic principles of probability and sampling theory are now well developed

[13] *Industrial Insurance, A Formal Approach to Risk Analysis and Evaluation*, January 19, 1960, Machinery and Allied Products Institute, 1200 Eighteenth Street, Washington 6, D.C.

[14] Weaver, *op. cit.*, p. 38.

[15] Ray J. Wheeler, "Credibility and Automobile Rate Making," *Proceedings of the Casualty Actuarial Society*, Volume XVI, Part II, 1930, pp. 268-286.

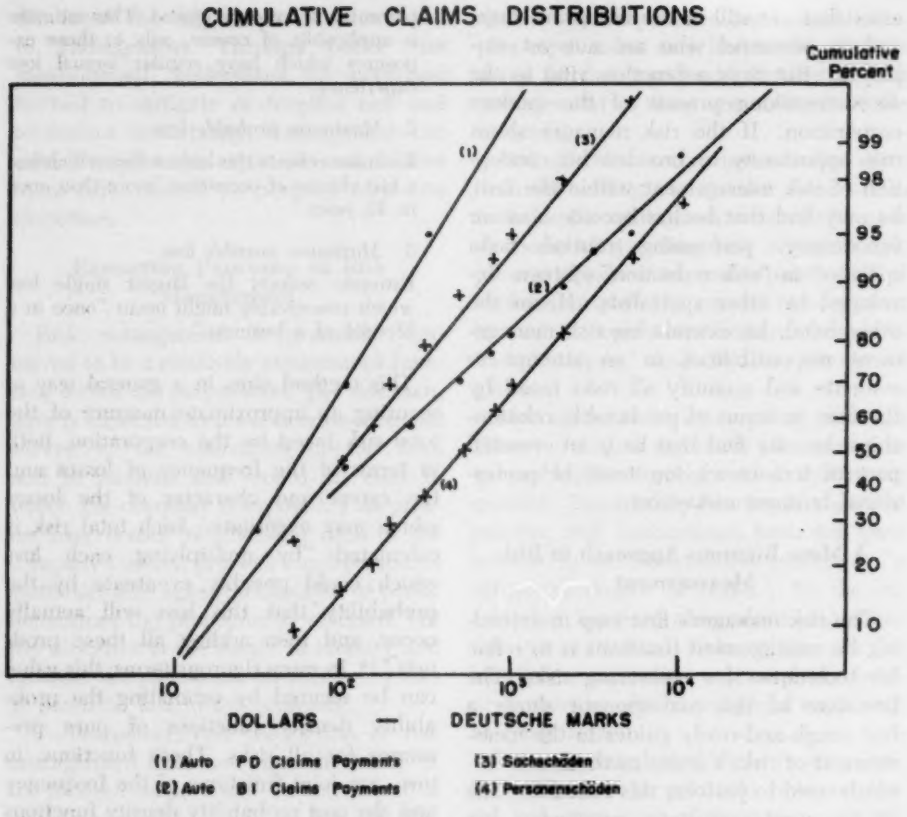

Figure 1.

and widely accepted. Moreover, statistical inference provides the only possible technique which can help advance risk measurement toward a more scientific basis in the future.

A recent study of the distribution of claims costs has raised serious questions as to the number of cases required for "100 per cent credibility" in a number of casualty insurance lines.[16] Four samples of automobile bodily injury and property damage claims were selected in such a manner as to minimize the bias of unpaid claims. The distribution of these samples of claims suggests that the logarithm of costs is distributed normally. In other words, auto liability claim costs appear to have a log-normal distribution.

Johannes Mehring has presented further evidence that certain types of insurance claims are distributed in a log-normal fashion.[17] His study covers the data which the German government has used for rate-making purposes. One distribution relates to claims involving persons (*Personenschäden*) and the second is for claims involving property (*Sachschäden*). The sample distribution involving persons

[16] Francis R. Watson, *Traffic Accident Research and Casualty Insurance* (Unpublished doctoral dissertation, Graduate School of the Ohio State University, Columbus, 1960), pp. 7-22.

[17] Johannes Mehring, XVI[e] Congress International d' Actuaries, *Theme, BI*, pp. 5-19.

includes 48,029 claims, while that involving property comprises 352,900 claims. It is not clear whether these claims may be considered similar to the BI and PD auto claims, respectively.

The cumulative distributions for these claims are plotted on log-normal probability paper as shown in Figure 1, along with two of the samples of BI and PD claims mentioned above. In this chart, the ordinate is a normal probability scale and the abscissa is a logarithmic scale of dollars or deutsche marks. Thus, in this form, a log-normal distribution will be linear, with a slope dependent upon the variance of the logarithms. Because all the distributions were reasonably linear, it is assumed that the claim costs are distributed in a log-normal fashion.

If the distribution of claim costs is log-normal, the question arises as to the number of cases required to give full credibility of pure premium. Watson has shown that for such distribution, the sample mean is not both a sufficient and an unbiased estimate of the population mean. He further demonstrates that the credibility of different types of claims is not the same for the same sample size.[18] For BI claims, the number of claims required so that the Law of Large Numbers will assure a fully credible estimate of the population average claim cost, must be considerably larger than the number required for PD claims.

The results of this research have direct relevance to corporate risk measurement. For example, one of Professor Mowbray's basic works on credibility neglected any effect that the distribution of claims costs would have on the result.[19] Mowbray's conclusion that fifty thousand cars insured for one year would give "100 per cent credibility" holds only for a point distribution. But it has been seen that auto liability claims costs have a log-normal distribution. Similarly, the National Bureau of Casualty Underwriters is said to define "100 per cent credibility" as credibility resulting from 1084 claims.[20] No distinction appears to be made between the credibility of BI and PD claims when the same number of claims is employed. But Watson found that for 1084 BI claims, the 95 per cent confidence limits for the population average are $962 and $1,461 when the sample mean is $1,185. This is an error of 23 per cent. For 1084 PD claims, the confidence limits are $93.30 and $108.70 for a sample mean of $101, or only an 8 per cent deviation from the mean.[21] It is readily apparent that the credibility of different types of claims differs significantly for the same sample size. It is also apparent that 1084 BI claims cannot yield, even approximately, "100 per cent reliability."

The foregoing study shows that risk managers must secure considerably larger samples of losses for certain types of risks than previously thought necessary, if the Law of Large Numbers is to assure sufficiently accurate estimates of the population parameters. But once having recognized this difficulty, there is no reason why they cannot proceed to estimate the probability distributions of loss frequency, loss cost, and pure premium for the significant risks of the firm. At best, this will be a difficult, time-consuming process.

Such an approach, however, would seem preferable to the present methods of risk measurement, which lack a consistent theoretical framework.[22] The scientific method consists, above all, in the purposive assembling of data to test the validity of relevant hypotheses. Most branches of science now find that probability and statistics play a pervasive role

[18] Watson, *ibid.*, pp. 20-21.

[19] Albert H. Mowbray, "How Extensive a Payroll is Necessary to Give a Dependable Pure Premium? *Proceedings of the Casualty Actuarial Society*, Vol. I Part I, 1915, pp. 24-30.

[20] Watson, *op. cit.*, p. 17.

[21] *Ibid.*, pp. 21.

[22] Mowbray and Blanchard, *op. cit.*, p. 541.

in the advance of basic knowledge. In our opinion, the use of statistical inference in corporate risk measurement can play a comparable role. The balance of this paper will be devoted to some rudimentary suggestions for an approach to formulating and testing certain hypotheses which may help in the reduction or control of loss.

The Reduction and Control of Loss

When the risk manager has made his best estimates of the parameters of risk, he must, as Mowbray and Blanchard have said, ". . . decide whether to ignore it, take steps to prevent it, deal with it as an expected part of expenses of operation, make financial preparation to meet it through self-insurance, or insure against it." [23] One or more of these methods, alone or in combination, must be used, and used consciously in each case.

Of course, loss prevention programs must be continuously employed. At the same time, objective standards for choosing among the other methods of risk control need to be developed. The effective use of statistical estimation in risk measurement can help the risk manager decide which course of action will produce the best results.

If it is assumed, for example, that a baking company has 2,500 delivery trucks, it is possible for the risk manager to test the hypothesis that an observed difference in pure premium for PD liability between its own fleet experience and that upon which its insurer bases its rates, is a real difference arising from fundamental factors and not merely a difference that might reasonably be expected on the basis of chance variations. Subject to stringent assumptions, statistical theory enables him to test this hypothesis. The risk manager can also test in a similar fashion whether the difference between pure premium, if one exists, is the result of a difference between loss frequencies, the average loss cost, or both.

If he finds that his own fleet experience is significantly lower than the insurer's underlying pure premium assumptions, he may request a reconsideration of his rates, or he may decide to self-insure. Decisions regarding self-insurance may turn on the probability distribution of the frequency and severity of losses, which are themselves a by-product of more rigorous risk measurement. If, for instance, the loss frequency variance is relatively small for PD liability losses, the chance of having more than a specified number of losses is likely to be slight. Since the average PD loss is relatively small, it would probably pay the firm to self-insure.

On the other hand, the risk manager may find that his own fleet experience is not significantly different from the underlying pure premium of its insurer. But he may also discover that this result conceals a significantly low average loss cost. In this case, accelerated accident prevention programs might result in lower rates in the future.

It is even more important to know the distribution of severity of losses. The risk manager, for example, might safely self-insure a risk when the standard deviation of losses is only $150. But self-insurance of BI auto liability losses, where the standard deviation may approach $10,000, is another matter. Full insurance, or at least a moderate deductible with each occurrence of loss would seem to be in order for smaller companies. Of course, the stability of those functions is of critical significance. If the frequency distributions of losses do not vary significantly over time, and the firm is of sufficient size for the Law of Large Numbers to apply, statistical estimation should be an invaluable aid in measuring corporate risk probabilities.

[23] *Ibid.*, p. 540.

These simple examples indicate some of the potential applications of statistical methodology to risk measurement. They assume that risk managers and insurance companies will work closely together in the measurement and analysis of risk. Joint research projects will be required, for example, to test the difference between the mean and the variance of corporate loss frequency and severity, and the same parameters for comparable risks as derived by a major insurer. If the differences between the parameters are significant, the risk manager should proceed cautiously with any policy action until he has further verified his data. Such common sharing of experience between insurance companies and risk managers can produce better long-term results for the insurers as well as for the corporations themselves.

Conclusion

Scientific risk management within the American corporation is in the early stages of development. Electrical engineering was at a similar stage when Count Volta decided that the process of measuring the relative electromotive force in two electrical wires by grasping them in either hand, was no longer good enough. He set about to measure that force by precise and accurate calculations.

Scientific methods should be applied to the measurement of corporate risk in a comparable manner. If, through the application of the techniques of mathematical statistics, the risk manager can measure the characteristics of losses and develop stable probability forecasts for future use, the major task will be done. When he has secured greater insight into the fundamental nature of losses, he can begin to develop the loss control programs which are so essential to the progress of risk management practices.

APPLICATION OF MATHEMATICS TO INSURANCE AND RISK MANAGEMENT

MARK R. GREENE

One of the significant advantages of insurance as a field for teaching and research lies in the many opportunities to study and apply scientific findings and techniques and concepts in other disciplines. Many of the basic subjects which make up the field, "insurance," such as the insurance contract, insurance distribution systems, rate making, insurance regulation, and insurance finance, are based on concepts developed in other scientific fields,[1] concepts which can be integrated and focused around insurance.

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[1] Examples of such applications (outside of mathematics) are: (1) motivation research techniques developed from *psychology* have been of great value in insurance marketing. (2) Characteristics of a negligent act, from law, are basic to an understanding of liability insurance. (3) The scientific method, developed first in *philosophy*, has helped formulate statements of principles, hypotheses, and theories in insurance. (4) Utility theory, first developed in *economics*, has aided in understanding the rationale of insurance buying. (5) Principles of building construction, from *engineering*, and architecture are vital to understanding the field of fire insurance underwriting and rate making. (6) Medicine has contributed importantly to an understanding of life insurance and health insurance underwriting. (7) Theories of governments, from *political science*, have significance in studying insurance regulation. (8) Studies of social problems from *sociology* have formed the basis of many types of social and private insurance.

In addition to applications of concepts from fields outside of business administration, there have been many useful techniques and concepts developed in business administration fields, which have direct application to insurance. For example, marketing research methods and personnel management methods have aided greatly in increasing the efficiency of insurance distribution, through more scientific selection of salesmen, more intelligent advertising, better job analysis and job descriptions. Developments in data processing from the accounting field have substantially increased the internal efficiency of insurance management. These examples could be multiplied many times.

Mathematics and statistics is one of the scientific fields which has considerable importance to insurance and risk management. It is the purpose of this paper to explore some of the ways in which mathematics and statistics can be applied in this area.

Types of Applications

There are at least six possible types of insurance applications in which a knowledge of mathematics is vital. Not all of the following types are mutually exclusive, but they will serve to separate the main avenues of thought.

(1) *Actuarial science.* This includes mathematical techniques to measure risk, estimate losses, to develop rate-making formulas, to give concise expression to the many variables entering into underwriting decisions.

(2) *Statistical decision making.* This involves probability methods to arrive at decisions, the outcome of which are not certain but may be said to involve several possibilities, each of which has a known or estimable probability. In this way decisions can be made by giving a quantitative expression to outcomes which were formerly analyzed by subjective methods.

(3) *Marketing research.* Increasingly,

insurance management is utilizing the methods of marketing research, which include statistical sampling techniques, to solve certain problems relating to the marketing of insurance.[2] Mathematical methods have an important place in marketing research.

(4) *Utility analysis.* Using the methods of calculus, utility analysis permits a systematic analysis of the economic rationale of insurance buying.

(5) *Mathematical models.* The use of mathematical models in insurance management planning is only in its formative stages. Models have their greatest usefulness in estimating the results of decisions which are affected by several variables all interrelated.

(6) *Game theory.* Business games have become popular in recent years as a device to simulate in the laboratory various types of competitive behavior in the real world. At least one insurance game has been developed primarily as a device to train underwriters in the field of property and liability insurance.[3]

Examples of Applications

Since there are many more applications of mathematics to insurance than can possibly be elaborated in this paper, only brief outlines will be given of examples of these applications in connection with each of the types mentioned above. It is hoped that the examples selected will be those of greatest interest to teachers and students of insurance who have not previously been particularly interested in this area and who may thereby be led to appreciate to a greater extent the potentiality of mathematics as a useful teaching tool in their chosen area of insurance and risk management.

Actuarial Science

Mathematics is, of course, the very foundation of actuarial science. In the interpretation of observed loss data, in estimating losses in the absence of reliable loss data, in determining the number of exposure units required for a given degree of accuracy in loss experience, and for rate making purposes, and in many other vital actuarial tasks, mathematics is indispensable.

To take an extremely simple example of how a mathematical formula can give concrete expression to the effects of different assumptions in rate making, consider the experience rating formula used widely in workmen's compensation rate making. A formula to determine the percentage by which an employer's compensation rate is modified is:

$$\text{Modification} = \frac{A_p + B + W(A_e)}{E_p + B + W(E_e)}$$

where A_p = Primary actual losses, employer's tabulatable dollar losses in the prior period, reduced gradually as the size of the risk increases.

B = The stabilizing value, in dollars.

W = A specified percentage of losses suffered by an employer over the primary actual loss.

A_e = The excess of the employer's actual losses over the primary expected loss.

E_p = Primary expected losses, those losses expected to be incurred as determined by industry-wide experience.

E_e = The excess of undiscounted expected losses over the primary expected losses.

[2] See Mark R. Greene, "Marketing Research as an Aid to Insurance Management," *Journal of Insurance*, December, 1957, pp. 42-55. See also, Richard M. Heins and R. Clay Sprouls, "Scientific Sampling," *Best's Insurance News, Fire and Casualty* Ed., June, 1956.

[3] John S. McGuinness, "A Managerial Game for an Insurance Company," *Operations Research*, Vol. 8, No. 2, (March-April, 1960), pp. 196-209.

This formula, which gives concrete expression to a method of calculating an employer's compensation rate, greatly simplifies the national administration of private compensation insurance, assures that employers everywhere will receive equal treatment, and is such that any clerk can be trained quickly to carry out the necessary calculations from tables which supply the values for the different variables. The formula makes it crystal clear that a small employer will not be unduly penalized for an unexpectedly severe loss in a given year, because the "B" value is such that a large number, relative to the small employer's normal claim losses, is entered in both the numerator and denominator of the equation, thus reducing the size of the modification that would otherwise result.

Furthermore, the value for "W" is zero for relatively small employers. For example, in Massachusetts if expected losses are less than $12,000 annually, the value for "W" is zero, and so two terms drop out of the formula, which becomes a simple ratio of actual to expected losses, modified by the stabilizing element. For larger employers (those with expected losses in excess of $12,000), a rising proportion of excess losses is taken into consideration until, in Massachusetts, when the expected losses exceed $380,000, the entire amount of losses of the employer enter into the formula, and the employer in effect becomes "self rating." The purpose of the above discussion is to point out how neatly these elements can be expressed by formula, and how difficult it would be to refine the experience rating system without a technique such as the one outlined.

Another example of mathematical tools used in actuarial science is the area of formulas to measure the insurer's risk, meaning the relative certainty with which an insurer may predict randomly distributed losses. Many such formulas have been developed and used by actuaries over the years.[4] A relatively simple normal standard error formula given by Parzen,[5] based on the assumption that losses are distributed according to a normal curve, is

$$N = \frac{S^2}{4e^2},$$

where N equals the number of exposure units sufficient for a given degree of accuracy,

e equals the degree of accuracy required, expressed as a ratio of actual loss frequency to expected loss frequency, and

S equals the standard deviation of the distribution of losses.

In the above formula, which is concerned only with loss frequency, S tells the level of confidence with which the results can be stated. Thus if the problem is to determine how many exposure units are necessary so that it can be stated with a confidence level of 95 per cent (S equals 2)[6] that actual losses will not vary from expected losses (assumed to be known at least approximately) by a deviation of more than two percentage points (i.e., e equals .02), the answer is easily found to be 2500 exposures ($4/4 \times .02^2$).

The expected loss frequency ratio must

[4] See Alan H. Mowbray, "How Extensive a Payroll is Necessary to Give a Dependable Pure Premium," *Proceedings, Casualty Actuarial Society*, Vol. 1, 1914-15. Mowbray's position is challenged by Francis R. Watson in his unpublished doctoral dissertation, *Traffic Accident Research and Casualty Insurance*, The Ohio State University, Columbus, 1960, pp. 7-22.

[5] E. Parzen, *Modern Probability Theory and its Applications* (New York: John Wiley, 1960, pp. 239-245.)

[6] S equals 2 because in normal distribution, 95 per cent of observed values will fall within a range of two standard deviations from the mean value. If a 99 per cent confidence level is required, S would have to equal 3, because 99 per cent of observed values in a normal distribution, fall within three standard deviations of its mean, etc.

be known in order to assess the relative degree of accuracy. Thus if the expected loss frequency ratio is .20, (out of every 100 exposures 20 are expected to suffer loss) it is known that 2500 exposures units will produce, with 95 per cent confidence, a loss frequency which will not vary from expected loss frequency by more than 10 per cent of expected loss frequency (.02/.20).

By using such a formula, while greatly simplified in comparison to formulas which take into consideration the size of loss or different distributions of losses (e.g., many casualty losses are not distributed normally but follow a Poisson distribution more closely), it is possible to reach a first approximation to the number required for reasonable accuracy in risk measurement. It is simple enough to be used by self insurers and in the classroom for individuals not highly trained in mathematics or statistics. It can be used as a first step in introducing more involved formulas, if time and abilities permit.

Statistical Decision Making

Modern probability methods appear to have considerable promise as a mathematical tool for risk analysis and management decision-making in insurance.[7] Basically the idea of statistical decision making is to consider all possible outcomes of a given decision, assign some probability evaluation to each possible outcome, and then calculate the "expected value" of each outcome, selecting the decision which leads to the greatest expected value.

For example, suppose an underwriter from Lloyd's is offered a share of an all risk contract covering loss by ocean storms to a proposed tunnel beneath the English Channel. The amount of the policy is to be 1,000,000 pounds. The underwriter decides that, if the risk is accepted, the following outcomes, with given probabilities, are possible:

Outcome	*Cost (in pounds)*	*Probability*	*Expected Value*
Winter storms cause seepage	60,000	.5	$ 30,000
Weight of water breaks tunnel	500,000	.1	50,000
Russians drop bomb in several places in tunnel	1,000,000	.1	100,000
Materials too weak, tunnel collapses	100,000	.2	20,000
No loss at all	-0-	.1	-0-
Total	—	1.0	$200,000

The underwriter thus cannot accept the risk for less than a premium of 200,000 pounds plus whatever he demands as profit. The underwriter may decide further that he can procure engineering studies which will make it possible, with a .5 probability, to cut in two the expected cost of tunnel collapse by weak materials. There is now a .5 probability of losing 20,000 pounds from this source and a .5 probability of losing only 10,000 pounds from this source, making the expected value of tunnel collapse 15,000 instead of 20,000 pounds. The underwriter thus may reasonably be expected to be willing to pay up to 5,000 pounds for the engineering study.

Whether the underwriter is willing to risk his capital on the venture described above is up to him, of course. The analysis, has presumably been of some help in forcing him to assess carefully each possible outcome and to arrive at a more reasoned decision than is otherwise possible. It might be objected that the underwriter has no way of knowing what the probabilities of the events are, but this

[7] The pioneer text in this field is Robert Schlaifer, *Probability and Statistics for Business Decisions* (New York: McGraw-Hill, 1959).

can be answered by the observation that if the underwriter makes any decision, he is subjectively assigning probabilities to various outcomes, whether he realizes it or not. The statistical decision making technique forces him to make explicit the assumptions he himself is using to arrive at a decision. It might also be objected that the above technique is too simple to be of practical use. However, proponents of statistical decision making argue that even complex decisions, based on a whole series of possible outcomes, can be reduced to a simple one similar to the one described above.

Marketing Research

As is now generally recognized, many of the more important industry problems in insurance lie in the area of marketing. Determination of market potential, advertising and consumer preferences, channels of distribution, analysis of sales effort, and studies of how well insurance policies are meeting the needs of consumers, are the main areas of interest.[8]

Many mathematical techniques can be employed in the solution of these problems. For example, random sampling methods in which sampling error can be determined in advance, can be and are being used effectively by insurance management to answer such questions as why policyholders do not renew their policies, what type of agent is preferred by the consumer, why do salesmen quit, what problems are facing sales managers and others over whom management has only loose control, what type of advertising is most effective and through what media, and what type of insurance protection is really in demand? By using a probability sample, rather than a haphazard investigation, management often can obtain reliable answers to the above questions in much less time and at much less cost than would otherwise be possible. Since time and money are important to insurance management, as they are to all managements, more extensive use of these methods is very likely in the future.[9]

The solution of some of the marketing problems in insurance appears to be facilitated by such mathematics as the simplex method of linear programming, scaling techniques to measure the results of aptitude testing, analysis of variance to measure the relative influence of many variables and statistical procedures to validate personnel aptitude tests.[10]

Utility Analysis

All teachers of insurance and most insurance buyers recognize the importance of utility as a concept in buying decisions. After all, an insurance company must charge more for its service than the expected value of the loss, since an allowance must be made for overhead. Therefore, the consumer must be willing to pay more for protection than the expected value of the loss. How much more depends on his utility for money, his aversion to risk taking, the amount of his income and wealth, and other factors. In studying utility curves, mathematical techniques are almost indispensable. Of course, one may teach utility in an intuitive way so that the general idea is conveyed, but any refined treatment of the subject depends primarily upon an understanding of the calculus. The whole concept of marginal

[8] Mark R. Greene, *op. cit.* p. 47. In a survey of marketing research activities reported in this article, the above named marketing research areas received the chief emphasis.

[9] Arthur L. Bailey, "Sampling Theory in Casualty Insurance" Introduction and Parts I and II, Vol. XXIX, and Parts I-VII, Vol. XXX, *Proceedings, Casualty Actuarial Society*, 1942-43, gives a theoretical mathematical framework for the application of sampling theory to insurance. See Heins and Sprouls, *op. cit.*, for an application.

[10] Evidence of managements' interest in these subjects was the devotion of an entire section of the recent American Management Association's January, 1960, seminar to "Selection, Administering, and Evaluating Psychological Tests."

utility depends on calculus. Studies of utility also depend on game theory. These subjects are fairly well developed in the literature.[11] Although this subject is still largely of theoretical interest, more refined ways are being developed to measure utility and to make applications of utility theory in studying actual buying decisions. These developments should be of considerable interest to advertisers and other insurance marketing executives.

Mathematical Models

As noted above, the development of mathematical models in insurance management planning is only in its initial stages. A mathematical model is a device to permit management to study the effect of several variables which simultaneously affect the outcome of a given decision. Essentially it permits construction of a framework for organizing the data relating to the several variables in such a way that the effect of changing different assumptions can be precisely determined, and in such a way that the set of decisions will be internally consistent with one another. It is necessary that the different variables be subject to quantitative expression. These variables may be expressed in one or more equations, each of which serves a different purpose.

For example, there might be an equation to define terms, one to express relationships or interactions between these terms, one to combine the various relationships in such a way as to express or decribe certain anticipated human behavior, and another equation to place restraints on the interactions observed. These equations may then be solved simultaneously to produce certain results. The observed results can be compared with empirical phenomena for accuracy, or can be confirmed by actual experimentation. Familiar but elementary examples of models in wide use are break-even models and inventory control models.

Actuarial Models

In actuarial science, model building has long been an important tool. An example of one use of models was to investigate the effects of non-random factors affecting loss occurrence in workmen's compensation insurance.[12] An assumption often used in rate making is that each loss is independent of the next, in any given group of exposure units, an assumption which greatly facilitates mathematical manipulation of loss distributions. In many groups of exposures it may be that after one loss has occurred, measures may be taken to "tighten up" on safety procedures, or group morale may undergo subtle changes, so as to affect the probability of subsequent losses. Mr. Carleton developed a model to test the extent to which given assumptions about the expected change in probability of losses following the occurrence of a loss, would affect the total loss picture.

Other examples of uses of mathematical models in insurance include the following: (1) One actuary studied the effects on unemployment insurance of different assumptions as to average length of unemployment, wages, hours worked during employment, number of unemployed persons, and other factors. The purpose of

[11] One of the first writers to treat utility analysis was Daniel Bernoulli, "Exposition of a New Theory on the Measurement of Risk," (translated by Louise Sommer (*Econometrica*, Vol. 22, No. 1 (January, 1954), pp. 23-36. Marshall treated the subject in Alfred Marshall, *Principles of Economics* (New York, Macmillan & Co., 1898), p. 210 n. In the now famous article, "The Utility Analysis of Choices Involving Risk," *Journal of Political Economy*, Vol. LVI (1943), pp. 279-304, Milton Friedman and L. J. Savage developed and explained ways of measuring utility. John von Neumann and Oskar Morgenstern in their classic book, *Theory of Games and Economic Behavior* (Princeton University Press, 1944), contributed significantly to utility analysis and game theory.

[12] John Carleton, "Non-Random Accident Distributions and the Poisson Series," *Proceedings, Casualty Actuarial Society*, Vol. XXXII, No. 2 (November 16, 1945), pp. 21-26.

the model was to determine the insurability of the unemployment peril and to study other actuarial problems in connection with this peril.[13] (2) A study was made on the effect of risk on the willingness of farmers to plant certain crops with a highly uncertain degree of success, such as potatoes and fall cabbage, using a nonlinear programming models. Risk is measured in terms of the standard deviation of net revenue and the model revealed that reduced standard deviation was purchased at a rather large reduction in net revenue, due to a high risk aversion factor.[14] (3) Models to study individual and collective risks have been developed by European actuaries to facilitate management's study of insurance and of the risks taken by the underwriter under varying assumptions.[15]

Model building has much wider applications in insurance management than those which fall primarily within the province of the actuary. For example, one insurance company management developed a model to predict the effect of different assumptions as to losses, sales expense, market share, and dividend payments in five different insurance divisions, on the growth of aggregate company surplus. It was possible also to determine the average annual amount necessary from investment income to maintain surplus additions at given rates.

One interesting possibility in the use of mathematical models in insurance management is to explore areas for which little or no empirical data exist, with the idea of testing the results of different assumptions as to the value of unknown variables. For example, suppose it is determined that a new type of insurance policy can be sold at a rate of $1 per unit or $2 per unit, depending on the exclusions or limitations of liability incorporated into the contract. There are certain fixed costs involved in offering the contract to the public and the problem is one of forecasting different sales and profit levels at prices in between the extremes of $1 and $2. Estimates of sales levels at the two extremes in price can be made and various types of assumptions can be made as to the shape of the demand function. One assumption is that the demand function is linear. If so, a linear equation can be quickly formed using the two estimated values for sales at the two prices. Other values for sales can be supplied by inspection of a graph or by inserting into the equation different values for price.

Another assumption is that the sales curve is quadratic. Mathematical equations of different degrees of "bend" can be formed, and answers for intermediate values of sales between the two price levels can be determined as before. One of the significant advantages of the model is that the *assumptions* as to the shape of the sales function are definitely known and the results of the sales forecast can be interpreted in the the light of management's appraisal of the probable shape of the sales curve. Thus the management is forced to recognize explicitly that it is assuming that the demand is relatively elastic or relatively inelastic when it makes a given forecast (elasticity depending upon the shape of the sales function).

An important advantage of the use of models in management planning in insurance is that of invertability. The model can be run "forward or backward," depending on the desire of the model builder. A model to explain the results of promotional effort using different types of media, different levels of expenditure, over different periods of time can be

[13] Nathaniel Gaines, "Actuarial Aspects of Unemployment Insurance," *Proceedings, Casualty Actuarial Society*, Vol. XIII (1955), pp. 203-230.

[14] Rudolph J. Freund, "The Introduction of Risk into a Programming Model," *Econometrica*, Vol. 24, No. 3 (July 1956), p. 253 ff.

[15] See Harold Cramer, *Collective Risk Theory* (Stockholm, Skandia, 1955.) David B. Houston has summarized the main outlines of these models in "Risk Theory," *Journal of Insurance*, March, 1960, pp. 77-82.

solved for any one of the different variables by holding the others constant or by using different values for them. At first, management might be interested in studying the effects of a short versus a long advertising campaign. Later, it might assume that it wants a long campaign with a certain type of medium and wishes to determine the interactions of the other two variables, amount of expenditure and resulting sales levels.[16]

Game Theory. The mathematical theory of games, as formulated by such pioneers as von Neumann and Morgenstern, is to be distinguished from the subject of business games with which many in collegiate schools of business have become familiar in recent years. The mathematical theory of games is an attempt to help formalize into a general theory, appropriate strategies of behaviour for "players" with different and conflicting sets of preferences. In its elementary form a game may be studied by construction of a "payoff table" in which each player sets down the results of different possible actions or decisions he may take in a given situation. His choices and results of these choices are thus assumed to be specified. The problem is to choose a strategy in selection of choices, in such a way as to maximize his benefit regardless of what other players may do to maximize their benefit. An example of one type of game strategy is for each player to choose that action which will be at least as good as any alternative action, and which will also be the best way to counter any other player's move in such a way as to obtain the greatest possible reduction of that player's gain. If such a set of alternatives exist for all players the game is said to be in *equilibrium.* As an example of an equilibrium solution, consider the following situation from World War II:[17]

> In the critical stages of the struggle for New Guinea, intelligence reports indicated that the Japanese would move a troop and supply convoy from the Port of Rabaul at the eastern tip of New Britain to Lae, which lies just west of New Britain on New Guinea. It could travel either north of New Britain, where poor visibility was almost certain, or south of the island, where the weather would be clear; in either case, the trip would take three days. General Kenney had the choice of concentrating the bulk of his reconnaissance aircraft on one route or the other. Once sighted, the convoy could be bombed until its arrival at Lae. In days of bombing time, Kenney's staff estimated the following outcomes for the various choices:

Kenney's Strategies:	Japanese Strategies: Northern Route	Southern Route
Northern Route	2	2
Southern Route	1	3

> It is easily seen that there is one equilibrium point: (northern route, northern route), with an expectation of two days' bombing. These in fact were the choices made: the convoy was sighted about one day after it had sailed; and the Japanese suffered severe losses.

In terms of game strategy, the Japanese commander's best choice was the Northern Route, even though the defeat was disastrous, for by this choice he had the chance of minimizing his loss no matter what Kenney's choices were. By choosing the Northern Route it was impossible for him to suffer more than two days of bombing, while if he had chosen the Southern Route, there was a possibility of suffering three days' bombing.

Game theory, then, involves a scientific study of which alternatives are likely to be

[16] Robert S. Weinberg, *An Analytical Approach to Advertising Expenditure Strategy* (New York: Association of National Advertisers, 1960) pp. 89-116. This excellent treatment of the subject contains a thorough analysis of the use of models in connection with advertising strategy and a critique of models, together with a thorough bibliography of sources on the subject.

[17] R. D. Luce and Howard Raiffa, *Games and Decisions,* (New York: John Wiley & Sons, 1958) p. 65.

best in a situation in which there is a conflict of interest and in which the players are subjected to variables over which they have no control. These variables may be within the control of the *other* players or they may behave as if they were subject to *random occurrence.* To permit the study of games to make headway, many simplifying assumptions are necessary. For example, it is often assumed that the players have complete knowledge of the probabilities with which the randomly determined variables may occur. Again, specific values may be assumed for the different outcomes of different decisions. In real life, of course, making these simplifying assumptions may be very difficult and still render the game a useful simulation of the real world. Another complication is that in the real world collusion among the "players" often exists, while such is not usually permitted in studying mathematical games.

A recent and very interesting report of an application of mathematical game theory to insurance consumption was by C. Arthur Williams, Jr.[18] In this paper Professor Williams made a pioneering contribution to the field, and developed a model by which individuals can study how they should go about achieving certain objectives, such as minimizing expected loss in utility and minimizing expected regret (difference between actual result under the choice made and the lowest possible result).

In spite of the difficulties, business games have grown popular in recent years as useful devices to accomplish certain objectives. Business games and their ancestors, war games, grew out of the mathematical theory of games and have been used primarily as teaching devices, although in some cases they have been used as a way to make management decisions.

[18] C. Arthur Williams, Jr. "Game Theory and Insurance Consumption" *Journal of Insurance,* December, 1960.

Among the teaching objectives of games are:

(1) To furnish motivation of participants to study more thoroughly the principles of business administration. The games are fun and the players often enjoy trying to outwit the other players, or trying to "beat" the game itself (guess the parameters).

(2) To enable the student to appreciate the interrelationships of many phases of business, (e.g., the relationship of finance to marketing, of marketing to production, of insurance to personnel management).

(3) To instill an appreciation of time pressures, need for team cooperation, and the uncertainties of outcomes in any given set of decisions.

(4) To teach the importance of a systematic analysis of data, and to develop creativity in determining just what data are needed for business decisions.

(5) To teach the importance of long run planning, and the place of experimentation in business.

(6) To teach institutional or other facts.

So far there is no empirical evidence that business games are any more effective as training devices than alternative methods of teaching, e.g., cases, lecture, etc. Using the games is often costly in terms of time and money employed, especially for the more involved games now being used extensively at Carnegie Institute of Technology,[19] where players must make between 100 to 300 "decisions" for each play. The following comments are indicative of the objectives and complexity of this game:

> The Carnegie Tech game has been played at the rate of one move a week by graduate students during the regular school year, using teams of seven to ten players

[19] See K. J. Cohen and Eric Rhenman, *"The Role of Management Games in Education and Research,* (Pittsburgh: CIT Graduate School of Industrial Administration, Mimeographed) Working Paper No. 22, September, 1960, pp. 15-16.

> to represent each company . . . the game is slow and expensive to play. Making a set of decisions takes at least two or three hours; not fifteen minutes; and teams need to play 20 or 30 moves to experience the long run consequences of their decisions. The computation of results for each move ties up an IBM 650 computer (with a RMAC memory unit) for about 45 minutes. Faculty guidance and supervision takes a great deal of time.
>
> In the Carnegie Tech game, as in most top management games, the ostensible object of play is fairly vague. The participants are not told that they are supposed to maximize profits, maximize sales, maximize total assets, or maximize anything at all. Each company must decide for itself what goals, both short run and long run, are appropriate to it in the light of what is known of the business world. . . . Some of the most fruitful discussions in the feedback sessions following play of these games revolve about the choice of criteria for 'winning the game.'

Business games are of two general types, general management and functional. General management games are usually quite complex and attempt to give the players "top management" business experience simulation, teach interactions of various functional areas, and otherwise to meet the more general objectives listed above. Functional games, on the other hand, are usually simpler, often can be hand scored, and are focused on the specific problems in one given area, such as insurance,[20] marketing[21] or personnel management.[22]

It would appear that functional games run the risk of being "too simple" in the sense that the specific rules or institutional facts which are to be taught might more easily and cheaply be taught by other means. For example, it would appear the McGuinness's insurance game has as its chief objectives the teaching of the importance of advance planning, the importance of the drain on surplus imposed by the effect of expanding sales on the unearned premium reserve, the reduction of unit cost as business increases, demand elasticity for insurance, advertising effectiveness, choice between excess-of-loss or quota share reinsurance, and other facts necessary for effective insurance management. In the more general management games, on the other hand, oftentimes the objectives are not clearly formulated except in fairly general terms, and it is difficult to evaluate just how much the players have learned. Nevertheless, although games are still in their experimental stages, they seem to hold considerable promise for future education of students of business administration.

Insurance Teaching and Business Games

As one way of integrating a knowledge and appreciation of insurance as a device to handle business risk for the general business student, general management business games seem especially appropriate. To illustrate, suppose a general management game is being played by students in a business policy course.[23] Each period, certain decisions as to marketing expenditures, production, financial outlay, borrowing, etc. are made. The game director may make periodic announcements as to the existence of impending "depressions" or "prosperities" which will affect the results of decisions to be made. One of the decisions to be made each period could be that of what action should be taken in view of uncertain occurrences which could cause unusual loss in the

[20] John McGuinness, *op. cit.*

[21] Kroger's *"Supermarket Decision Simulator,"* and Remington Rand's *"Marketing Management's Simulation"* game are examples.

[22] For example, Jay R. Greene and Roger L. Sisson, Personnel Assignment Management Game, in *Dynamic Management Decision Games* (New York: John Wiley, 1959) p. 19.

[23] For example, at the University of Oregon, all business students are required to take business policy and are using a hand scored general management game developed by Stanley Vance, Miner Professor of Business Administration at the University of Oregon. (Stanley Vance, *Management Decision Simulation,* (New York, McGraw-Hill, 1960).

forthcoming period. The occurrence, or the result (or both) may be said to result from chance, with given probabilities. Each team decides whether to "take a chance" and save on insurance premiums or loss prevention effort, or to take measures to offset the uncertain event which could cause loss.

For example, players could be given a schedule showing certain possible fire losses, say 100 per cent, 50 per cent, and 10 per cent destruction of the main plant, with probabilities .001, .01, and .02 respectively. Each team must make a decision as to how much fire insurance to purchase. The cost of insurance is supplied and could be linearly related to the amount of insurance taken, or nonlinearly related, depending on the situation. For example, fire insurance premiums would be linearly related to the amount taken, but liability insurance premiums would be nonlinearly related. The effect of taking fire coverage with or without coinsurance penalties could be introduced as a complication.

Each period a different type of risk could be considered, corresponding to the major insurable perils. It would be easy to introduce other methods of risk management into the game. For example, the players could be informed that a sprinkler system could be installed at a cost of $50,000 with resulting savings of annual fire insurance premiums of $5,000. Furthermore the loss prevention device can be said to cut in half the probability of loss. The particular financial position of the team at a given time might dictate the decision. The decision also rests on utility considerations of the team, whether it is "linear or non-linear money." The importance attached to long term planning plays a part in the decision. For example, if a prosperity had been announced, interruption due to fire would have a more serious result than if a depression had been announced.

Whether or not the team experiences a loss could be determined by some device, such as a table of random numbers, or spinning of a roulette wheel, or throwing of dice, arranged in such a way as to produce the announced probabilities of loss.

Constraints could be imposed to force the teams to make choices among different types of insurance. For example, a constraint could be imposed that no team could devote more than a certain percentage of sales to all insurance or risk premiums. A constraint could be imposed such that any team whose net working capital falls below a certain level is *required* to purchase certain types of insurance. This forces the team to appreciate the interrelationships between financial management and insurance management.

Many additional refinements suggest themselves. The teams could be presented with two retrospective rating plans for the handling of workmen's compensation insurance. In one plan the firm has an opportunity to save a relatively small amount of premium money in return for the assumption of certain risk in connection with workmen's compensation losses. In the other plan the firm has an opportunity virtually to self-insure the compensation risk at larger premium savings, but is subjected to certain probabilities of extremely large losses. If the second plan is taken, the firm must hire a safety engineer at an annual salary of $10,000, etc.

The complexity of the insurance decisions can be related to the backgrounds of the particular students playing the game. Hand-scored games, such as Vance's, have the advantage that they are flexible and it is not necessary to write a new computer program each time one of the conditions is changed. In general, however, the purpose of bringing insurance and risk management decisions into the general management game is to bring an appreciation of insurance decision making from the viewpoint of the consumer to the *general*

business student. Hence the complexities should be minimized. For the insurance major, the game could be turned into a functional game to teach fundamentals of insurance, and could be refined considerably. One of the biggest advantages of games, in the opinion of the writer, is that of motivation of the student to learn more about insurance and its uses.

Conclusions

Mathematics and statistics appears to have many useful direct and indirect applications to insurance and insurance teaching. By more thorough consideration of the various tools outlined in this paper, the insurance teacher should be able to strengthen considerably his program, primarily by sharpening up concepts, integrating insurance and risk management with other disciplines in social science, and stimulating the student, particularly the capable student, to deepen his knowledge of the subject.

PUBLICATIONS AND RESEARCH

The British Insurance Scene

INGOLF H. E. OTTO

A Review Article on *Insurance*, by H. A. L. Cockerell. London: The English Universities Press, Ltd., 1957. 210 pages.

This beautiful little book by the secretary of the Chartered Insurance Institute is designed as an introduction to insurance for persons with no particular knowledge of the subject. For British readers that purpose is admirably served. For Americans interested in insurance, however, the book's chief virtue lies in the clear and simple exposition it gives of British insurance practice, national insurance, insurance organizations, the British company market, Lloyd's, and the men and women who carry on the insurance business of the United Kingdom. For these expositions, if for nothing else, the work belongs in every insurance library in the United States.

As an insurance book, this one is exceptional in being written in English instead of the Choctaw which Lord Keynes so deplored. Mr. Cockerell's prose has that deceptive simplicity which, in another place, distinguishes the simple little gowns of Mainbocher from the complicated horrors of Peoria. After the unfortunate sort of insurance book, which reads as though it had been composed by stuffing a dictionary through a meatgrinder, it is refreshing to find one put in honest English prose. This crotchet of the English for treating their language with respect extends even to that ultimate citadel of officialese, Acts of Parliament. Cockerell quotes the preamble to a famous Act of 1601, which deserves to be remembered for its style as well as for what it says about insurance:

> Whereas it hath been time out of mind an usage amongst merchants, both of this realm and of foreign nations, when they make any great adventure (especially into remote parts), to give some consideration of money to other persons (which commonly are in no small number) to have from them assurance made of their goods, merchandises, ships and things adventured, or some part thereof, at such rates and in such sort as the parties assurers and the parties assured can agree, which course of dealing is commonly called a policy of assurance; by means of which policies of assurance it cometh to pass, upon the loss or perishing of any ship, there followeth not the undoing of any man, but the loss lighteth rather easily upon many than heavily upon few, and rather upon them that adventure not than those that do adventure, whereby all merchants, especially the younger sort, are allowed to adventure more willingly and more freely.

It would be interesting to see how a State insurance commissioner might phrase the same thought in an official bulletin.

In scanning the text, the American reader is struck by one major difference of treatment from similar summaries in the United States. Since the United States has fifty-four different jurisdictions, each with its own insurance laws, rules, and

Additional personal data about Ingolf H. E. Otto, Ph.D., CPCU, is shown in connection with his feature article which appears earlier in this issue.

interpretations, it is not possible for a writer on insurance practices to be specific, except at the cost of being unbearably tedious. In point of fact, the specific is left to compilers of indices and surveys of comparative law, while the insurance writer feels that he has done well if he can make a general statement about agency or wagering policies which is more or less true throughout the United States (except Texas).

The British author, especially if he confines his attention to England, is not so perplexed. He can make any number of definite statements and cite specific laws and legal cases of general application. With respect to wagering policies, for example, Cockerell can not only make the usual points familiar to insurance people in the United States; he can point out that the Life Assurance Act of 1774 is still in force, that it termed such policies "a mischievous form of gaming" and declared them to be null; that the Gaming Act of 1845, forbidding suits on wagers, applies also to wagering policies; that the Marine Insurance Act of 1906 specifically declares that "every contract of marine insurance by way of gaming or wagering is void"; and that the Marine Insurance (Gambling Policies) Act of 1909 makes it a criminal act to take out a marine policy without either present or anticipated interest. Since a succession of general statements unrelieved by specifics tends to get dull, American insurance books are seen to have a built-in disadvantage.

As can be imagined, in a book intended for the layman, much of what is said about terms, practices, and organization is familiar to the American insurance man or insurance teacher. For them the interest of the volume lies in the account of British insurance which it gives; so that is the only portion to be noticed here. The rest will simply be taken for granted.

Concentration of Power

British insurance companies number several hundred, but the market is dominated by some thirty groups, known as "composite" offices because each writes substantially all classes of cover. Most of these companies are over a hundred years old; only five are less than eighty years old. Their operations encompass what has been termed "multiple multiple-line" insurance in the United States, since they write life as well as property and casualty cover. An interesting question, on which no one seems yet to have written a dissertation, is why the process of merger and consolidation that led to the dominance of these thirty groups did not proceed even farther, as it did in banking. British banking has a "big five": why should the trend toward monopoly be so much weaker in insurance? Anti-trust laws have nothing to do with it, as they might in the United States; economies of scale are presumably similar to those found in banking; so why the disparity?

The question of concentration of economic power is a major one for any country: in the United Kingdom a number of provocative views have been expressed concerning it. On the Third Program in 1960, Professor Richard Titmuss of London University attacked the growing power of British life insurance companies. The five mergers of large companies which took place in 1959 he saw as tending to "reduce still further what little competition remains between these large-scale bureaucracies." Although few useful data exist on which to base comparisons, he concluded that British life companies hold twice as much of their total assets in equities as do American companies. From that presumptive fact he came to the conclusion—which is either pleonastic or wrong—that the British companies are twice as powerful as their American counterparts "in terms of the ownership

of industrial assets." If that is merely another way of saying that they hold twice the equities, then the statement is true but tautological; if it is intended to say that they wield twice the power in controlling the operations of the industrial concerns whose equities they own, then the statement is false. If the British companies have any influence at all, the factor of increase is not two, but infinity.

Quoting from the Radcliffe Report, Professor Titmuss mentioned that insurance and pension funds now represented the principal source of new capital and that they have come to dominate the City. He then developed his major theme: that the public does not have any real idea of how the insurance companies' responsibility is being discharged; and that an "irresponsible society" is growing up in which power is increasingly in the hands of a few persons at the top of giant bureaucratic pyramids, who are accountable to no one. The picture is a gloomy one: its dark tones may be partially explained by the fact that Professor Titmuss is not a professor of insurance (there are none in the United Kingdom), but a professor of social administration.

The Radcliffe Report

The Radcliffe Report which Professor Titmuss mentioned, appeared in August of 1959, well after the appearance of Cockerell's book; so he was not able to use the novel facts about British insurance companies which the Report contained. The Radcliffe committee—more properly, Committee on the Working of the Monetary System—was appointed in April of 1957, when the problem of inflation was exercising the government. The inquiry was a broad one and its conclusions about insurance make interesting reading. The committee found that some four hundred and forty insurance companies were doing business in the United Kingdom, but that most of the domestic business was done by less than a hundred. It took evidence, however, only from the British Insurance Association and its members. That Association, with two hundred and fifty members, was formed in 1917 to protect and advance the common interests of all classes of insurance, including, when necessary, concerted action to counter government interference at home or abroad.

Member companies of the British Insurance Association, at the end of 1957, held life funds amounting to £4,042,000,000 and general insurance funds amounting to £399,000,000. Many of them did business in other parts of the world: indeed, in general insurance the overseas business came to twice the domestic business. Life and annuity funds were increasing at the rate of about £300,000,000 a year. The companies felt that this rate would be maintained for three reasons: (1) policyholders would take out more insurance to catch up with inflation; (2) people becoming more insurance-minded; and (3) group business would continue to grow. The percentage distribution of assets of the British companies is especially interesting to American readers by contrast with American figures:

PERCENTAGE DISTRIBUTION OF ASSETS OF LIFE FUNDS

(AS OF 1957: PRINCIPAL ITEMS ONLY)

	United States	British
Own Government Securities	6.9	27.6
Mortgages	34.8	14.4
Corporate Bonds	40.4	14.6
Corporate Stocks	3.3	17.3

PERCENTAGE DISTRIBUTION OF ASSETS OF NON-LIFE FUNDS

(AS OF 1957: PRINCIPAL ITEMS ONLY)

	United States	British
Own Government Securities	21.1	37.1
Mortgages	5.9	6.3
Corporate Bonds	6.0	12.5
Corporate Stocks	32.4	19.5

The committee was astonished to find the distribution of assets of the two kinds of British funds so similar, considering the different purposes for which each was

held. As to marketability and maturity, however, substantial differences do exist.

During World War II the companies had been put under great pressure to put every shilling into government bonds. Their holdings of British government and government guaranteed securities did, therefore, rise to a high of 32.5 per cent (as compared with a high of 45.9 per cent for American life companies). The decline in these holdings since the end of the war has been modest, as may be seen in the table, compared with the precipitate decline in American life company holdings.

In the post-war period no specific compulsion was exercised on the companies' pattern of investment. Their lendings have been subject to the capital issues control, and the monetary authorities have issued "requests" to them, similar to the qualitative requests issued to banks. No attempt has been made, however, to gauge the effectiveness of these mild suasions, and certainly no sanctions have been imposed. This rather vague sort of control has irritated the companies: they have, from time to time, found themselves perplexed by the failure of the Capital Issues Committee to explain its recommendations. Their recourse at that point is to the Bank of England, that peculiar institution which comports itself more like a secret society than a bank. If the insurance companies can find out what the monetary authorities have in mind, they cooperate fully.

The Radcliffe committee was told by the insurance companies that they would not be willing to disclose the market values of their assets: American insurance men would join Professor Titmuss in thinking that quite odd. The committee, in its final report, criticised the insufficiency of insurance companies' annual returns to the Board of Trade and suggested to Parliament that they be required to provide quarterly returns showing their buying and selling of capital assets (life and general funds combined). A wistful desire to know how much saving was being done through the payment of life insurance premiums was also expressed. These diffident points seem quite amusing to anyone familiar with American reports and examinations.

Market Characteristics

The British insurance market for property and casualty insurances is vast and heterogeneous. Probably placements could be secured in London with any of the insurers listed in the *Assecuranz-Compass*. In life insurance the choice is less eclectic: some seventy-odd companies. Most of these are British, though Commonwealth companies are active, principally those from Canada, Australia, and South Africa. There are also one Israeli and two American companies doing business on an admitted basis, and actually seeking business. The position of the American companies is a bit involved: about a half-dozen are admitted to do business by the Board of Trade, including the New York giants, but only two—the American Life Insurance Company and the Georgia International Life Insurance Company—are actively soliciting. On the other hand, an unknown number of American life companies do business on a non-admitted basis. Their legal status is obscure, but the Board of Trade ignores them so long as they confine their solicitation to American citizens and do not violate the Exchange Control Act. Most of these companies concentrate on military personnel.

British and American Practices

A major difference in selling practices exists between the British life offices and the Canadian companies doing business in the United Kingdom. Insurance people in the United States take it for granted that life insurance salesmen operate on commission; the British companies, on the

contrary, keep their salesmen on salary. The feeling seems to be that a salesman on commission might be too eager to sell, might offend the client, or might prejudice the company's relations with an "own case" agent. The Canadian companies, however, do use salesmen on commission, and most successfully. So the two systems exist side by side, exchanging rude remarks about "American methods" (anathema among British life offices) and "order-takers" (anathema among adherents to American Methods).

Another intriguing difference is found in governmental attitudes toward personal savings through life insurance. In the United States, the dollars an assured saves in the form of insurance are subject to premium taxes. These, like all taxes, have the effect of discouraging the activity taxed. If the lawmakers are rational creatures, they pass laws which discourage a certain type of activity because they wish to curtail that activity. (On the other hand, if they are not rational, they ought to be put away.) That being the case, the disinterested observer is forced to conclude that the settled policy of the United States is to discourage thrift through insurance and to dissuade its citizens from safeguarding their future earning power. In the United Kingdom, however, the government regards the thrift and self-reliance of a life insurance program as desirable. It does, therefore, not only have no premium taxes, but it gives income tax relief on life insurance premiums. The relief is limited to one-sixth of the taxpayer's income and varies with the size of premium, from one hundred per cent to forty per cent of the premium paid.

Associations and Regulation

Life companies which have head office in the United Kingdom, have been in business for ten years, and have at least £1,000,000 in life funds, are eligible for membership in the Life Offices Association. Formed in London in 1889, the Association acts as a sort of watchdog of members' interests. The Scottish life offices have their own association, founded even earlier in Edinburgh in 1841. The industrial life offices, if they write ordinary life as well, belong to the Life Offices Association; but they also have a special organization of their own, the Industrial Life Offices Association.

In property and casualty insurance, perhaps the chief difference to be noted is the total absence of form and rate regulation. Spectators in the United States who have been exposed to the incessant propaganda on behalf of compulsory rate-fixing laws have, no doubt, by now realized that reason and logic have nothing to do with the arguments. The questions have become emotional, almost religious. It might be easier to convert a cardinal to Gnosticism than to persuade a compulsory-rate-making partisan to consider the merits of free competition. To that point of view, of course, the existence of the British system, with its complete absence of rate regulation, is a living reproach. If concerted rate-making is essential to a sound insurance system, then British insurance cannot exist. Since it does, it must be dealt with as the Inquisition dealt with Galileo: by silence and suppression. The suppression has been successful to the point that even standard text books on insurance disregard the British system of free rate competition and its simple refutation of the arguments for compulsory rate-making. Collectors of oxymoron will cherish the paradox: the country that busily propagandizes the whole world on the merits of economic freedom has tied its insurance companies hand and foot; the country which is often held up as a quasi-socialistic state has almost complete freedom of action for its insurers.

To be sure, a number of British com-

panies have banded together and agreed on minimum rates for various classes. These are circulated to member companies of the Fire Offices Committee in books known as "tariffs" (hence, "tariff companies"). But no company is obliged to be a member. Many are not; and, of course, the great non-company market, Lloyd's, is not. Casualty insurance, (called "accident" in the United Kingdom) also has a tariff association, the Accident Offices Association. Many kinds of cover do not, however, have a tariff: health insurance; public liability, with a few exceptions; and burglary insurance.

With all these agreements, with the forms the companies use, with the rates they charge, the government has nothing whatever to do. There are no anti-trust laws to worry about, no rates to justify, no forms to file, no commissioners to take care of. The British government has, from earliest times, followed a *laissez-faire* policy toward insurance. The only part of the government that sees to insurance is the little insurance section of the Board of Trade. It has no thought of making periodic examinations of the companies under its wing, however: that would be invading the prerogatives of management. After all, an insurance company that cannot take care of examining itself does not deserve to exist. So the only examining powers of the Board of Trade are those given it by the Assurance Companies (Winding Up) Acts of 1933 and 1935. Under these the Board may, if it feels that things have gone wrong with a particular company, petition a court for permission to make an examination of that company. If the company does not feel inclined to be examined, it may contest the Board of Trade's desires. In that event, the court will hear both sides, as in any other action, and decide.

American insurance companies encountering this system for the first time tend to go into a state of shock. One such was recently admitted to do business in the United Kingdom. It wrote for a copy of the certificate of authority. The Board of Trade was taken aback: the company had applied for admission; the Board had admitted it; what more did the company want? A certificate of authority? What in the world was that? Finally, both sides were satisfied by simply citing the Board of Trade file number to each other: quite a refreshing change from the usual routine of getting admitted to a State. It will, however, be interesting to see what happens during the company's next examination, when the State examiner asks to see the United Kingdom Certificate of Authority.

The United Kingdom does not require insurance companies to make deposits. It used to, but came to the conclusion that deposits hampered an insurer in responding to financial emergencies; so, by the Assurance Companies Act of 1946, it supplanted the old deposit system by one of solvency margins. Insurance companies must now have a margin of assets over liabilities of ten per cent of their premium income, subject to a minimum of £50,000. No percentage limitations are imposed on investments: once again, if insurance company managers cannot be trusted to invest their funds properly they should be put out of business, not treated like Borstal boys.

Government Insurance

The government takes an active part in certain forms of insurance, especially social, or "National," insurance. An elaborate system of government insurance and social welfare plans grew out of the wartime Beveridge report. The immediate postwar period saw a series of acts passed which, either on a contributory or a non-contributory basis, gave a great array of benefits: unemployment, sickness, widowhood, retirement, maternity, death, and industrial injuries. These have had the

effect of wiping out workmen's compensation insurance (although employers' liability still remains) and most forms of hospitalization and medical fees insurance. They form a vast and complex constellation of insurance, quasi-insurance, and simple grants, operated by a force of thirty thousand civil servants. In spite of all this enormous and costly machinery, Professor Titmuss feels that most of the beneficiaries of national insurance are worse off, relatively, than they would have been in 1948. There are some two and one-half million persons on National Assistance; and, counting other dependent and disabled groups, he estimates that from seven to eight million persons live on the margins of poverty in the United Kingdom.

Other forms of insurance operated by the government have had mixed results. The Post Office used to sell life insurance, as a consequence of Gladstone's concern for the insurance needs of the poor. The scheme did not die until 1928, but it was a total failure. In over fifty years, less than thirty thousand policies were sold. When the scheme was closed, fewer than ten thousand policies remained in force. A better illustration of life insurance being sold, not bought, can hardly be imagined.

Annuities can still be bought from the government. Since 1786 the National Debt Office has been selling annuities, "With the object," as Cockerell remarks, "not noticeably fulfilled, of reducing the national debt."

Certain forms of insurance that are difficult or impossible for private insurers have been undertaken by the government. War risk cover during World War II was hardly an attractive risk for private companies or for Lloyd's. Marine war risks they could take, but not the concentration of goods and buildings on land. Despite the enormous damage visited upon the United Kingdom during the war, much of which still remains, all war damage claims were paid. Again, when the "Queen Mary" and the "Queen Elizabeth" were built, the world insurance market was exhausted before the lines were complete. The British government itself picked up the remaining risk. Private insurance was finally able to absorb the whole line in 1949; so the fund was closed.

As in the United States, government issues credit guarantees on exports. The insuring organization, the Export Credits Guarantee Department, operates on a commercial basis, although it is part of the government and is run by an advisory committee of the business community. The cover is limited to defaults of payment for political reasons, as contrasted with ordinary credit insurance. A catastrophe claim developed in 1951 when Brazil suspended payments. British exporters recovered millions of pounds from the Export Credits Guarantee Department.

Conclusion

Although numerous insurers operate in both the United States and the United Kingdom, the differences in practice between the two countries are vast. The absence of form and rate regulation makes for a healthy set of insurers. The elaborate conceptual structure of the "American Agency System" does not exist; so the position of producers is much weaker than it is in the United States. Part time agents are ubiquitous. There are even many "own-case" agents, appointed for the specific purpose of receiving commissions on their own policies. Indeed, since there are no laws against rebating, even this mild subterfuge is often abandoned. Many of the major commercial lines, the "target" lines, demand and receive from their brokers a rebate of up to half the commission payable on their business. All this seems quite messy and quite wrong to an American. Cockerell's answer to that is short: "It works: some-

thing apparently more systematic might conceivably prove both more expensive and less efficient."

Indeed, that might be the proper answer to most of the criticism which can be leveled at British insurance. All sorts of elaborate verbal arguments can be put together to demonstrate why the American way of doing things protects the public better than the British way. Then the acid test is applied: were the policyholders in fact better protected? Since the turn of the century the United States has had several hundred insurance companies go out of business under unpleasant circumstances, for every one in the United Kingdom; so the answer must be, no. Any system which can yield better results than another is worth studying. The British system of insurance is not yet adequately understood or appreciated by American insurance men and insurance teachers. This excellent little book can and should help substantially to fill the gap.

Book Reviews

RIGHT HAND MAN. By John A. Garraty. Harper & Brothers, Publishers, New York, 1960. xii plus 433 pages, illustrated. $7.50.

Reviewer: Edward B. Larson, Assistant Professor of Insurance, Illinois Wesleyan University.

The tide of "business biographies" continues to roll from the presses. This, however, is not the usual company history written to commemorate an anniversary. Rather, Historian John A. Garraty of the Columbia University faculty has told the life story of one man, George W. Perkins.

This volume really contains two stories. The first one is the personal story of George W. Perkins, and the second is the story of American business and politics at the turn of the century. The personal life is slighted, but this only makes the narration more interesting to one who wishes to learn of the ways in which business was conducted at that time.

After leaving school at the age of 15, Perkins went to work, in 1877, as a clerk at $25 per month in his father's General Agency for the New York Life Insurance Company. When his father died, he hoped to take over but the home office gave the agency to another man. Perkins then went to Wichita and sold $250,000 of life insurance in a few weeks. This was good, but he heard that Denver was better so he went there, recruited a few agents and sold $2,400,000 of life insurance in a few months. The New York Life could not ignore this, and, at the age of 25, he was offered the position of Branch Office Manager for the states of Colorado, Utah, Idaho and New Mexico.

Becoming Vice President of Agencies, he was instrumental in converting most of the American General Agencies into Branch Offices. Early September of 1899 found him in Berlin, negotiating with the German government. When negotiations stalled, he decided to convert the Russian General Agences to Branch Offices. When he returned from Russia on October 22, he was able to cable the home office that "Nothing loose or nailed down in this part of the world that we have not got." During this short period he had converted the General Agencies, reorganized the offices, talked Sergei Witte into an agreement prohibiting other American companies from entering Russia, purchased $10,000,000 worth of Russian railroad bonds, secured an option on an additional $15,000,000 of these bonds, and caused the Minister of the Interior to be dis-

missed by the Czar (he was too friendly towards the Mutual Life of New York).

The second phase of Perkins' career opened when he was appointed by Theodore Roosevelt to the Palisades Interstate Park Commission. He decided to seek private contributions for the development of the park and arranged an interview with J. P. Morgan, whom he had never met. The interview did not proceed as he had expected.

> "I will give you the whole $125,000 if you will do something for me," Morgan said calmly. "Do something for you," Perkins said. "What?" Morgan pointed across the room where all Morgan partners worked. "Take that desk over there," he said.

Accepting Morgan's offer, he became a partner in three Morgan firms. One of his first jobs with Morgan was to act as chief conciliator in the negotiations leading to the creation of the Northern Securities Co. Later, he became the "negotiator" who successfully brought about the formation of International Harvester.

Having maintained his position as Director and Chairman of the Finance Committee in the New York Life, Perkins was involved in the Armstrong investigation. His problems are best illustrated by this exerpt from one of "Mr. Dooley's" letters:

> Listen to th' tistimony iv Gabby George, wan iv th' gr-reatest iv thim fine men that we entrust our savins too. "Misther Hughes —'George, tell us why 'tis nicissry to commit perjury in th' life insurance business.'" "Gabby George—Thank ye f'r th' question. It's a pint I wud like to bring out. . . . In reply I wud say I love me father. Gintlemen, have anny iv ye a father? Then ye know what it is to have a father's love. . . . I have in me hand a letter frim th' ol' guy written in th' year eighteen sivinty-five. Gintlemen, I have carried this sacred epistle nex' to me heart f'r thirty years excipt whin I lent it out to wan iv th' boys who wanted to land a tough customer. . . . I read it to Pierpont Morgan, an' he was so overcome he gave me a job. I rayfused it onless he wud let me keep th' old wan too. He apprecyated me sintimints. He said he was a father himsilf. . . .

The Armstrong investigation resulted in "embarrassment, expense, frustration, and disappointment" for George Perkins. In the end, he was charged with grand larceny and forgery. Although not convicted, he broke all ties with the life insurance business.

The panic of 1907 soon required his energy and also shaped his future business philosophy. Severing his connections with Morgan in 1910, Perkins began his "third career".

He became a crusader for "industrial cooperation" under government control. This led to his breaking with President Taft and his involvement with the Progressive Party. He served as Chairman of the Executive Committee of the Progressive Party when Theodore Roosevelt ran for President in 1912. Perkins' intimate connections with the rise and fall of the Progressive Party are well told.

Devoting the rest of his life to public service with such organizations as the Y.M.C.A., the United War Work Council and the Palisades Park Commission, Perkins remained active until the time of his death in 1920.

> "George W. Perkins is dead at fifty-eight," (Frank) Munsey wrote in the New York *Sun*. "In this span he lived four hundred years."

The life story of this man will be of interest to anyone who is fascinated by a true Horatio Alger type story. Behind the personal story though, lies the even more important story of business and politics at the turn of the century.

It is evident that this book was not intended as a scholarly treatise on business; therefore it should not be judged on that basis. When a book like this one is both interesting and informative, it has achieved its purpose. "Right Hand Man" fulfills these criteria.

SOCIAL SCIENCE RESEARCH ON BUSINESS: PRODUCT AND POTENTIAL. By Robert A. Dahl, Mason Haire, Paul F. Lazarsfeld. Columbia University Press. New York, 1960. x plus 185 pages. $3.00.

Reviewer: Philip Elkin, Professor of Business Administration, Albright College.

This volume consists of three essays written for the Ford Foundation program and designed to stimulate increased interest in the world of business as a subject of research for social scientists. The supplementary objective of this program is to encourage a greater appreciation on the part of faculty members in the fields of business administration, of the potential contribution offered by these underlying disciplines. Assuming the obvious relation of the social science of economics to business, the essays deal with political science, psychology, and sociology.

The field of political science is discussed by Professor Dahl of Yale. Professor Haire of California deals with psychology. The discipline of sociology is handled by Professor Lazarsfeld of Columbia. In their joint preface, the authors reveal their version of the task: "We have tried to keep in mind the reader looking for a quick survey of what has been done by writers in each of these areas of the social sciences, the young scholar interested in the possibilities of research on business, teachers in need of a summary or references to works in the field, and the student training for a career in business."

In the essay by the political scientist, Dahl makes a brief survey of the state of knowledge with respect to four questions. What are the political orders *within* business firms and how do they operate? What are the political orders *among* business firms and how do they operate? What are the relations between business firms and the domestic and international political orders? What are the general consequences for the political order of the present organization of business? The reader will not be surprised to find that the state of knowledge in these areas is woefully insufficient. However, he may be surprised to find that there are a number of studies that are worthy of the attention of the economist and management specialist. Improvements in techniques for studying influence through "community power-structures" may illustrate this point.

The psychologist reminds us that the study of business is a behavioral science. Haire examines his approach to the business firm under four headings: industrial psychology, human engineering, personnel psychology, and industrial-social psychology. He finds neglect in the problems of motivation of management, motivation for communication, and the combining of the problems of risk-taking and decision theory. He is encouraged by the current work in organization theory and study of the problems of roles and status in well-organized hierarchies. Haire recommends inter-disciplinary attacks on some joint problem areas. For example, the area of shared risks needs both the economic notion of utility and the psychological approach to group structure. In the general area of human relations, the problems of satisfaction from pay plans and seniority arrangements need joint effort. The problem of dual allegiances has important cognitive and motivational implications. The author summarizes: "In general, the time seems ripe for a joint effort of students of business administration and the ancillary behavioral disciplines, bringing concepts and methods from a variety of fields to bear on a set of common problems."

Lazarsfeld opens his essay with a provocative statement: "We can take it for granted that a majority of the sociologists teaching in American liberal arts colleges

will have an ideological bias against business. Aiding the doctor, promoting justice, or supporting the agencies of the law—all these are in accord with accepted norms; helping the businessman make money is not. Even if the goal of business is formulated in broader terms —organizing the productive capacities of the country—many sociologists will doubt whether the contemporary American businessman is on the right track toward achieving it." Although this sociologist cries for the need to look at business as a social system, his emphases are under headings such as: Consumer Motivation, Determinants of Managerial Decisons, The Motivation of the Businessman, The Businessman's Role. Lazarsfeld wanders through considerable literature, with the implication that there is room for research at any point along the recital. Perhaps the best part of this essay is an extensive bibliography (compiled by Albert Gollins) under five headings: Consumer Behavior, Managerial Activities, Motivation and Role of Businessmen, The Analysis of Action, General Background.

It is rather curious to find that the sociologist and not the psychologist concerns himself with the analysis of individual decisions of consumers and businessmen. The structural aspects of business as orders or systems, is examined by the political scientist, not the sociologist. The psychologist, neither the political scientist, nor the sociologist, focuses on the conditions of efficiency in the business enterprise. Such actions may be questionable in terms of each individual discipline, but in studying such a dominant institution in modern life as the business firm, inter-disciplinary approaches may be desirable and necessary for new understanding of this social phenomenon. Perhaps the understanding of the business firm requires an eclectic approach by the social scientist, regardless of his specialty orientation in political science, psychology, sociology, or economics.

VICE PRESIDENT IN CHARGE OF REVOLUTION. By Murray J. Lincoln. McGraw-Hill Book Company, Inc., New York, 1960. 342 pages. $4.95.

Reviewer: R. R. Cuscaden, Assistant Editor, *The National Underwriter.*

If the insurance business today suffers from a degree of conformity that finds companies lurching from pillar to post in desperate attempts to emulate every innovation (with scant thought of whether the latest gimmick suits their specific needs or not), it is only the inevitable end result of recruiting techniques and programs that have invariably weeded out those men who might have proven intellectually disconcerting to the status quo.

But the safe way is not unconditionally the best way. And, as this autobiography by the president of Nationwide Mutual Insurance Company (and of its subsidiaries, Nationwide Mutual Fire, Nationwide General, and Nationwide Life), vividly illustrates, it is usually only the maverick who is genuinely capable of pushing through to the truly new.

It was Palto, in his Socratic dialogue, *Apology*, who first formulated the need for a rebel, or gadfly. Mr. Lincoln does not invoke the name of Plato, but he is obviously an honorable heir to an essential tradition, in his plea for a "vice president in charge of revolution." Such a vice president, Mr. Lincoln writes, would be a man "not responsible for any operations. He'd stand to one side, with whatever staff he needed, to pick holes in whatever we were doing, and remind us of our basic philosophy, our fundamental concepts. His job would be to stir up everything and everybody, to criticize and challenge everything being done—objectives, methods, programs, results."

An enthusiastic and dedicated proponent of the cooperative movement, Mr. Lincoln, as secretary of the Ohio Farm Bureau in 1925 (at the age of 33!), de-

cided the farmer wasn't getting a fair break in his automobile insurance rates, predicated as they were upon the experience of urban drivers. "My next step, then, was to appoint a committee to look into the feasibility of Ohio farmers setting up their own mutual insurance company." And the next step after that was the formation of the Farm Bureau Mutual Automobile Insurance Company. Today, with its name changed to Nationwide, this company is the second largest mutual automobile insurer in the country; fifth largest of all automobile insurers. With a generosity one comes to expect in all his actions, Mr. Lincoln pays grateful acknowledgment to the organizational help his young insurance company received from State Farm Mutual Automobile Insurance Company of Illinois.

Along the way, Mr. Lincoln has some intriguing thoughts on certain aspects of the business as a whole, state insurance department regulation, for instance. He notes that what disturbed him about an examination he received during the nineteen-forties was that "the examiners seemed to want most of all to make us conform to their idea of what was desirable in a company. They seemed to care little or nothing about our ideals and about why we weren't conforming; if we didn't do as other companies did, then we were wrong."

Mr. Lincoln also has convictions regarding mutual funds. He feels that life insurance is just not enough since "the erosion of the dollar is going to continue. If I had had the foresight to buy only term insurance and save the difference between the cost of term and old-line life, and then invested that difference—astutely, in average good investments—I would today be getting three times, in returns, the amount I am receiving on matured life insurance policies." He relates that his company investigated the field of mutual funds and eventually formed Mutual Income Foundation; half of Nationwide agents are now licensed to sell investment securities.

Few of the many areas into which Mr. Lincoln has ventured have failed to lead to widespread controversy over the project itself and censure of his own participation therein. And yet, paradoxically enough, one of the cooperative activities in which he is most interested, CARE (he is board chairman), has received the least criticism. This is particularly satisfying to him, for it is, ultimately, as a humanitarian that Murray Lincoln wishes to be remembered. His dedication to the cooperative movement in America is nothing less than a sincere belief that the people of this country should be able to control their own money; his book is a fervent appeal for a "true economic democracy." CARE, a "democratic non-profit economic organization," devoted to a nongovernmental distribution of aid (in various forms) to needy countries, is therefore appropriately symbolic of the effort he has always made in behalf of his fellow man.

David Cushman Coyle, in the *Saturday Review*, termed this volume "a delightful autobiography." This reviewer concurs wholeheartedly, and predicts, moreover, that it will forthwith assume its logical position in that small, but highly valuable, canon of books that are required reading for the forward-looking insurance man.

THE COMMISSION ON INSURANCE TERMINOLOGY

"Dictionaries do not make the language; language makes the dictionaries."

The Commission on Insurance Terminology was established in 1958 by the American Association of University Teachers of Insurance for the purpose of introducing, in an evolutionary way, greater clarity and exactness in insurance terminology. The specific objectives of the Commission are:

1. To engage in a continuing study of insurance language (words and phrases) for the purpose of evaluating the effectiveness of the language and recommending improvements where desirable.
2. To accumulate and publish a glossary of insurance words and phrases on which there is general agreement among practitioners and educators as to their meaning.
3. To develop a continuing program of information by which writers, editors, insurers, and others will have available more accurate and meaningful insurance terminology, and, through the art of gentle persuasion and assistance to those who make the insurance language, gradually bring some order out of the present chaos.
4. To cooperate with any other groups or individuals seeking to attain improvement in insurance terminology.

Committee on Health Insurance Terminology

During the latter part of 1960, letters were sent to the presidents of several hundred health insurers, telling them of the recommendation of the Committee on Health Insurance Terminology that the proper generic name of the business is "health insurance." The letter also asked that these presidents look favorably upon implementing this recommendation in their own operations. The response has been most favorable. Dozens upon dozens of letters have been received from insurers, lauding the recommendation and assuring of their intentions to implement it as soon as practical.

Among the insurance companies which have indicated to the committee that they have already adopted the term "health insurance" in place of "accident and sickness" or similar language, or that they will adopt it are:

American Health, Atlantic Life, Bankers National, BMA., Central States Health and Life (which changed its name in line with the committee recommendation), Crown Life, Federal Life, General American, Golden State Mutual, Hardware Mutuals, Inter-Ocean, Liberty Life, Metropolitan Life, National Casualty, New England Life, Northwestern of Seattle, Phoenix of Hartford Cos., St. Paul Western Cos., Security Life & Accident, United Life and Accident, and Western & Southern.

In addition to the above companies, which either have adopted or will adopt the recommended term, the following companies have indicated that they will consider the committee recommendation:

Canada Life, Employers Reinsurance, Equitable Society, Hartford Fire, Indemnity Company of North America, Inter-State Assurance, Lincoln National, National Life & Accident, North American Co. of Chicago, Northwestern National, Pennsylvania General, Prudential, State Auto & Casualty Underwriters, and West Coast Life.

The International Association of Accident and Health Underwriters has changed its name to the International Association of Health Underwriters. The name of its official publication has been changed from *The Accident and Health Underwriter* to *Health Insurance Underwriter*. The Life Insurance Agency Management Association has changed the name of its cognizant committee from "Accident and Sickness Committee" to "Health Insurance Committee." The Life Underwriter Training Council has reported to this committee that, with the next revision of its course of instruction (next summer), the designation will be changed from "Accident and Sickness Course" to "Health Insurance Course."

Committee on Pension and Profit Sharing Terminology

This Committee held two meetings during 1960. It was decided that a number of subcommittees should be set up to work in specific subject matter areas. As a result, the following six subcommittees were established and all members of the committee were assigned to a subcommittee:

Subcommittee No. 1—Origin of Plan, Scope of Coverage
Joseph L. Seligman, Chairman

Subcommittee No. 2—Method of Administration, Source of Contributions
B. Frank Patton, Chairman

Subcommittee No. 3—Nature of the Employer's Undertaking
Ray M. Peterson, Chairman

Subcommitte No. 4—Method of Financing
Dorrance C. Bronson, Chairman

Subcommitte No. 5—Funding Media
Meyer Melnikoff, Chairman

Subcommittee No. 6—Profit Sharing
J. J. Jehring, Chairman

Committee on General Insurance Terminology

Following approval by the Executive Committee of A.A.U.T.I. of the formation of the Committee on General Insurance Terminology (C.G.I.T.) and appointment, in June, 1960, of Dr. Ralph H. Blanchard as Chairman, steps were taken to choose its membership and to activate it.

The Chairman discussed the composition of the committee with persons in the academic and business world, including the Chairman of the Commission. It was felt to be particularly important to have academic representation since teachers would be familiar with the widest variety of insurance lines and especially conscious of the problems of terms and usages. Other members should be drawn from the widest practicable range of interests, but should be chosen for their individual competence rather than as representatives of those interests.

It is believed that the list of members indicates that these principles have been followed:

Edison L. Bowers, Chairman, Department of Economics, The Ohio State University

Clayton G. Hale, The Hale & Hale Company

Albert I. Hermalin, Assistant Director, Division of Statistics and Research, Institute of Life Insurance

G. Wright Hoffman, Professor of Insurance, Wharton School of Finance and Commerce

Daniel P. Kedzie, Director of Management Education, American College of Life Underwriters

Donald L. MacDonald, Associate Professor of Insurance, The University of Michigan

Charles H. Martin, Insurance Manager, American Cyanamid Company

Milton W. Mays, Vice President, America Fore Companies

James C. O'Connor, Editor, *F. C. & S. Bulletins*, National Underwriter Company

Barclay Shaw, Secretary, The National Association of Insurance Brokers, Inc.

William H. Wandel, Director of Research, Nationwide Insurance

C. Arthur Williams, Jr., Professor of Insurance, University of Minnesota

William N. Woodland, Executive Vice President and Secretary-Treasurer, Mutual Fire Insurance Association of New England

Ralph H. Blanchard, Chairman and Editor, Plympton, Massachusetts

Ex Officio

William T. Beadles, Editor, *The Journal of Insurance*

Davis W. Gregg, Chairman, Commission on Insurance Terminology

The first meeting of the committee, attended by 12 of the 16 members, was held on November 18, 1960. It was devoted to discussion of the field of the committee, its purposes, and tentatively, its procedure.

It was felt that the field of the committee should be words and usages that are common to all lines of insurance and those that lie in the fields of more than one of the specialized committees.

Among the qualities of words and usages that might well be given attention, the following were discussed: understandability, singleness of meaning, functionalism, uniformity, probability of acceptance, simplicity, workability.

Efforts are to be made to secure the cooperation of individuals and organizations having an interest in insurance, whether in the insurance business or related to it.

The committee has been kept small in order to emphasize individual responsibility of the members and to make meetings more effective.

The committee is proceeding on the assumptions that it will continue indefinitely, that any practical effect will be slow in making itself evident, and that even if its conclusions are not adopted it will have performed a service in bringing the problem of terminology to the attention of the insurance world.

The next meeting of the committee is scheduled for April 28, 1961.

Committee on Property Insurance Terminology

The Committee on Property Insurance Terminology was set up during the latter part of 1960, with Dr. John S. Bickley, Professor of Insurance in The University of Texas, as Chairman. Other members of the committee are as follows:

Lyttleton M. Baldwin, Executive Vice President, Travelers Insurance Company

Kenneth Black, Jr., Chairman, Insurance Department, Georgia State College of Bus. Admin.

James M. Cahill, Secretary, National Bureau of Casualty Underwriters

Ellis H. Carson, Partner, Boit, Dalton, and Church

James B. Donovan, Watters and Donovan

Richard E. Farrer, Vice President, Commonwealth Life Insurance Company

Kenneth O. Force, Executive Editor, *The National Underwriter*

Paul R. Gingher, President, State Automobile Mutual Insurance Company

Victor Hallman, American College of Life Underwriters

J. Edward Hedges, Professor of Insurance, Indiana University

Clyde Kahler, Chairman, Insurance Department, University of Pennsylvania

Chester Kellogg, Managing Editor, Alfred M. Best and Company

Ambrose B. Kelly, General Counsel, Associated Factory Mutual Fire Insurance Companies

Carl E. McDowell, Executive Vice Pres., American Institute of Marine Underwriters

Robert I. Mehr, Professor of Finance, University of Illinois

Robert M. Morrison, Morrison, Mahoney, and Miller

Edwin S. Overman, Assistant Dean, American Institute for Property & Liability Underwriters

Frederick W. Doremus, Assistant General Manager, Inter-Regional Insurance Conference

Edwin W. Patterson, Cardozo Professor of Jurisprudence, Columbia University

Robert A. Rennie, Vice President, Nationwide Insurance Companies

William H. Rodda, Secretary, Transportation Insurance Rating Bureau

Robert W. Strain, Texas State Board of Insurance

Hubert W. Yount, Executive Vice President, Liberty Mutual Insurance Company

Ex officio: Davis W. Gregg, President American College of Life Underwriters

Ex officio: William T. Beadles, Professor of Insurance, Illinois Wesleyan University

Committee on Life Insurance Terminology

The Committee on Life Insurance Terminology is the newest Committee to be activated by the Commission on Insurance Terminology. Dr. S. S. Huebner, President Emeritus of the American College of Life Underwriters has been appointed Chairman of this committee. Dr. David A. Ivry, C.L.U., of The University of Connecticut will serve as Editor. Others who have agreed to serve on this committee are:

Kenneth Black, Jr., C.L.U., Chairman Insurance Department, Georgia State College

Robert Dechert, Esq., Barnes, Dechert, Price, Myers & Rhoads

E. J. Faulkner, President, Woodmen Accident and Life Company

Alfred N. Guertin, Actuary, American Life Convention

Kenneth W. Herrick, C.L.U., Chairman, Insurance Department, Texas Christian University

Holgar J. Johnson, President, Institute of Life Insurance

Jack C. Keir, C.L.U., Assistant Dean, American College of Life Underwriters

Robert S. Kieffer, C.L.U., Immediate Past President, Life Advertisers Association, Metropolitan Life Insurance Co.

D. E. Kilgour, President, Great-West Life Assurance Company

M. Albert Linton, Provident Mutual Life Insurance Co.

William P. Lynch, C.L.U., Vice President for District Agencies, Prudential Insurance Co. of America

Dan M. McGill, C.L.U., Executive Director, S. S. Huebner Foundation for Insurance Education

Paul S. Mills, C.L.U., Managing Director, American Society of C.L.U.

Robert B. Mitchell, Vice President and Editor, *The National Underwriter*

Paul A. Norton, C.L.U., Vice President, New York Life Insurance Company

Loran E. Powell, C.L.U., Managing Director, Life Underwriter Training Council

Clifford B. Reeves, Vice President for Public Relations, Mutual Life Insurance Co. of New York

Lester O. Schriver, Executive Vice President, National Association of Life Underwriters

Eugene M. Thoré, Esq., Vice President and General Counsel, Life Insurance Association of America

Edwin H. White, C.L.U., Vice President, Insurance Research and Review Service, Inc.

Edmund L. Zalinski, C.L.U., Executive Vice President, Life Insurance Co. of North America

Charles J. Zimmerman, C.L.U., President, Connecticut Mutual Life Insurance Co.

William T. Beadles, C.L.U., ex officio, Editor, *Journal of Insurance*

Davis W. Gregg, C.L.U., ex officio, Chairman, Commission on Insurance Terminology

CERTIFICATES OF APPRECIATION

A feature of the Presidential luncheon at the 1960 Annual Meeting of the American Association of University Teachers of Insurance was the presentation of certificates of appreciation to all past Presidents of the Association.

Each certificate stated that it was presented "in grateful recognition of his dedicated service and enduring contribution to insurance education as President of the Association" for a certain year or years. The scrolls were presented to all living past Presidents and to the family of deceased ones.

Below are given the names and terms of office of all past Presidents, together with the personalized statement which appears on each scroll.

S. S. HUEBNER, 1933-34. "Distinguished pioneer in insurance education, architect of the professional concept of insurance service, Dr. Huebner's tenure as president was only the beginning of his long and faithful service to our Association and through it to the teaching of insurance in this country and throughout the world."

RALPH H. BLANCHARD, 1935-36. "With his capacity for original and independent thought sparked by a ready and winning wit, Dr. Blanchard through his wise leadership and continuing counsel contributed in large measure to the stature of our Association."

HARRY J. LOMAN, 1937-38. "Organizing genius, statesman of insurance education, Dr. Loman led our Association with vision and foresight during its formative years and through inflexible adherence to sound and constructive principles helped shape its subsequent growth."

ROBERT RIEGEL, 1939. "Through articulate example and incisive persuasion Dr. Riegel influenced the Association to gain strength by adherence to its basic objectives."

DAVID McCAHAN, 1940-41. "Researcher, author, administrator, civic leader, as in his every endeavor Dr. McCahan gave unstintingly to the planning and execution of the work of our Association."

EDISON L. BOWERS, 1942-43. "Eminent economist, educator, administrator, Dr. Bowers added breadth of viewpoint to the wise and loyal leadership he provided during the developmental years of our Association."

FRANK G. DICKINSON, 1944-45. "Economist, statistician, researcher, independent thinker, Dr. Dickinson not only provided the original stimulation for the formation of the Association, but willingly assumed the laborious responsibilities essential to make it a functioning body."

C. ARTHUR KULP, 1946-47. "Scholar, teacher, administrator, profound exponent of the science of casualty insurance, Dr. Kulp added dignity and stature to our Association through leadership, guidance and advice extending far beyond his formal tenure as president."

J. ANDERSON FITZGERALD, 1948-49. "Loved and respected by all who know him, Dr. Fitzgerald brought wisdom and mature judgment to the management of the affairs of our Association."

ERWIN A. GAUMNITZ, 1950-51. "Teacher, researcher, able administrator, Dr. Gaumnitz contributed much to the dignity and prestige of our Association during its developmental years."

CLYDE M. KAHLER, 1952-53. "As a worthy successor to the 'founding fathers' Dr. Kahler gave strong leadership to our Association during the 'middle years.'"

LAURENCE J. ACKERMAN, 1954-55. "Scholar, administrator, gracious and friendly leader, long time servant of our Association, Dean Ackerman in his administration initiated the reorganization by which we more effectively meet today's challenge."

HAMPTON H. IRWIN, 1956. "Dedicated teacher, skilled practitioner, independent thinker, Dr. Irwin's service to our Association and to insurance education extends far beyond his formal term as president."

CHARLES C. CENTER, 1957. "Devoted teacher, skilled organizer, with his wide acquaintance, vision and capacity for leadership, Dr. Center opened for our Association new and expanded avenues of service.

WILLIAM T. BEADLES, 1958. "With quiet dignity, sound judgment and firm insistence on high standards, Dr. Beadles led our Association forward into new and expanded fields of service."

DAN C. McGILL, 1959. "Through his wide acquaintance, capacity for organization and careful attention to detail, Dr. McGill served the Association and the cause of insurance education with honor and distinction."

J. EDWARD HEDGES, 1960. "His colleagues pay tribute to Dr. Hedges as a great scholar, leader, and devoted servant of the Association for many years; and they look forward to his continuing wise counsel."

ELIZUR WRIGHT AWARD

Dr. J. Edward Hedges, 1960 President of the Association, announces that the Executive Committee, in unanimous action, has conferred the 1960 Elizur Wright Award upon William C. Greenough for his book *A New Approach to Retirement Income*.

Dr. Greenough, a long time member of this Association, is President of Teachers Insurance and Annuity Association of America and of College Retirement Equities Fund. Before joining TIAA, Dr. Greenough was Assistant to the President and Instructor in the School of Business of Indiana University.

The 1960 award winning book was described by Dr. Hedges as "a scholarly approach in a new field, truly the type of pioneering research for which the Elizur Wright Award was created."

The Elizur Wright Award carries an honorarium of $500 and a suitably inscribed certificate from the American Association of University Teachers of Insurance.

INSURANCE RESEARCH INVENTORY QUESTIONNAIRE 1960

This publication of the insurance bibliography contains entries of works completed during 1960 and some additional items not listed in the original publication in 1959. The report may be incomplete because some members did not respond to the questionnaire, and inaccurate because many members who did respond did not supply complete bibliographical data about their publications.

This addenda to the Insurance Research Bibliography was compiled under the direction of John F. Adams, Temple University, Chairman of the AAUTI Research Committee, by Robert Giesecke, Business Librarian, Temple University Libraries.

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Adams, John F., Assistant Vice-President, Temple University, Philadelphia, Pennsylvania.

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Harmelin, William, General Agent, Continental Assurance Co., New York City.

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Orlando Díaz, Manuel, C.L.U., Associate Professor of Insurance, School of Business, University of Puerto Rico, Rio Piedras, Puerto Rico.

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Nesbitt, Cecil J., Professor of Mathematics, University of Michigan.

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PROGRAM
1960 ANNUAL MEETING
AMERICAN ASSOCIATION OF UNIVERSITY TEACHERS OF INSURANCE

St. Louis, Missouri

December 27-29, 1960

TUESDAY, DECEMBER 27, 1960

9:00 a.m. MEETING OF INSURANCE TERMINOLOGY COMMITTEE CHAIRMEN AND EDITORS

2:00 p.m. EXECUTIVE COMMITTEE MEETING

WEDNESDAY, DECEMBER 28, 1960

8:00 a.m. C.P.C.U.-C.L.U. BREAKFAST

9:30 a.m. POTENTIAL INNOVATIONS IN INSURANCE PRACTICES
Chairman: H. H. Irwin, Wayne State University
Papers: VARIABLE COVERAGE
Robert I. Mehr, University of Illinois
George R. Jordan, First Vice President and Actuary, Southland Life Insurance Company

PROGRAMMING HEALTH INSURANCE BENEFITS
O. D. Dickerson, Florida State University
Edwin J. Faulkner, President, Woodmen Accident and Life Company

APPLICATION OF THE THEORY OF MARKETING TANGIBLE GOODS TO THE MARKETING OF INSURANCE
Chairman: Victor Gerdes, New York University
Papers: Warren N. Cordell, Vice President, A. C. Nielsen Company
Robert B. Miner, The Ohio State University
Raymond C. Johnson, Vice President, New York Life Insurance Company

12:30 p.m. LUNCHEON
Chairman: Davis W. Gregg, American College of Life Underwriters
PRESIDENTIAL ADDRESS
J. Edward Hedges, Indiana University

2:15 p.m. CHANGING INDUSTRIAL RELATIONS CONCEPTS AND THEIR IMPACT ON PENSIONS AND GROUP INSURANCE
Chairman: William T. Beadles, Illinois Wesleyan University
Paper: Jerome Pollack, Program Consultant, Social Security Dept., United Automobile Workers of America
Discussant: Michael T. Wermel, University of Hawaii
CURRENT STUDIES IN DEPTH
Chairman: John F. Adams, Temple University
Papers: WORKMEN'S COMPENSATION INSURANCE COMPANY EXPENSES
C. Arthur Williams, University of Pennsylvania
THE LIQUIDATION OF INSURANCE COMPANIES IN PENNSYLVANIA
Archie Nichols, Butler University
CREDITOR'S RIGHTS IN LIFE INSURANCE
Stuart Schwarzchild, Georgia State College of Business Administration

8:15 p.m. REVIEW OF CURRENT RESEARCH PROJECTS
Chairman: John F. Adams, Temple University
Papers: SOME COMMENTS ON THE PROBLEM OF MEASURING THE MACRO-ECONOMIC IMPLICATIONS OF LIFE AND HEALTH INSURANCE
Walter Williams, Indiana University
LOSS DISTRIBUTION IN NON-LIFE INSURANCE
O. D. Dickerson, Florida State University
ANALYZING THE EFFECTIVENESS OF RATING SYSTEMS
David B. Houston, University of California at Los Angeles
OASI STATISTICS—A PROGRAM FOR INSURANCE INDUSTRY EMPLOYMENT RESEARCH—PART III
Theodore Bakerman, Duquesne University
SELF-INSURING THE WORKMEN'S COMPENSATION RISK: A CASE STUDY
James L. Athearn, University of Florida
TOOLS FOR RECRUITMENT OF COLLEGE MEN FOR THE INSURANCE INDUSTRY
Burl Abel, Texas Technological College
AUTO INSURANCE—SOME OBSERVATIONS ON THE UNINSURED MOTORIST AND ACCIDENT PRONENESS
Harold C. Krogh, University of Kansas
THE INSURANCE PRINCIPLE IN UNEMPLOYMENT COMPENSATION
Harry Malisoff, Brooklyn College
ALL LINE INSURANCE GROUPS
William Alrich, Editor, *Spectator*

THURSDAY, DECEMBER 29, 1960

9:00 a.m. TEACHING TECHNIQUES

Chairman: David A. Ivry, The University of Connecticut

Papers: PROPERTY INSURANCE CONTRACT ANALYSIS
James J. Chastain, Municipal University of Omaha

RISK MANAGEMENT
Wayne Snider, University of Pennsylvania

ANALYSIS OF FINANCIAL STATEMENTS
Grant Osborn, Arizona State University

INSURANCE PROBLEMS OF A QUANTITATIVE NATURE

Chairman: Erwin A. Gaumnitz, The University of Wisconsin

Papers: THE MEASUREMENT OF RISK
Robert A. Rennie, Vice President-Research, Nationwide Insurance Companies

PROPER LIMITS OF LIABILITY
Bob A. Hedges, University of Illinois

THE PROBLEM OF CAPACITY
Ingolf H. E. Otto, New York University

MATHEMATICS AND INSURANCE
Mark R. Greene, University of Oregon

Discussants: Fred L. Hillis, Insurance Manager, Anderson, Clayton & Co.
Oscar Serbein, Stanford University

12:30 p.m. LUNCHEON

Chairman: J. Edward Hedges, Indiana University

RESPONSIBILITIES OF THE INSURANCE INDUSTRY
Frederic M. Peirce, President, General American Life Insurance Company

2:15 p.m. BUSINESS MEETING

Minutes of the Annual Business Meeting of The American Association of University Teachers of Insurance

St. Louis, Missouri, December 29, 1960

Purpose of the Meeting

President J. Edward Hedges announced that the objectives of the business meeting were: (1) to announce the election results; (2) to report on the actions of the executive committee; (3) to review reports of committees; and (4) to discuss with the members the financial statement and certain proposed projects of the Association.

Acknowledgments

The President acknowledged the deep appreciation of the Association for the participation, guidance and wise counsel of Robert Stieglitz whose term of office on the executive committee is expiring. He also extended the sincere thanks of the Association for the financial aid of New York Life over the years.

The President reported that, as the result of Executive Committee action at the mid-year meeting, the Association awarded certificates with individualized citations to all past presidents of the Association at the luncheon on December 28. Those persons included: S. S. Huebner, Ralph H. Blanchard, Harry J. Loman, Robert Riegel, David McCahan, Edison L. Bowers, Frank G. Dickinson, C. Arthur Kulp, J. Anderson Fitzgerald, Erwin A. Gaumnitz, Clyde M. Kahler, Lawrence J. Ackerman, Hampton H. Irwin, Charles C. Center, William T. Beadles, Dan M. McGill, and J. Edward Hedges.

Election Results

The Committee of Tellers: Messrs. Trosper, Overman and Pickrell reported that the following were the duly elected officers of the Association for 1961: Davis W. Gregg, President; John S. Bickley, First Vice President; Kenneth W. Herrick, Second Vice President; Joseph F. Trosper, Secretary-Treasurer; J. Edward Hedges, Immediate Past President. Newly elected members of the Executive Committee are Mark Greene and E. J. Faulkner.

President Hedges reported that William T. Beadles had been reappointed editor of the *Journal of Insurance* and that Edward B. Larson was reappointed Business Manager of the *Journal.*

Attendance

Although official figures were not available, the President estimated that about 125 had registered for the meeting. The President commended Arthur W. Mason for the work of the Local Arrangements Committee. He announced that the 1961 annual meeting will be in New York.

Membership

The following figures were reported as submitted by the Secretary-Treasurer, representing membership status by classification as of December 1, 1960:

Active	314	decrease of 16
Associate	457	decrease of 5
Retired	9	decrease of 1
Honorary	6	increase of 1
Complimentary	8	no change
Student	23	increase of 3
Non-member subscribers	275	increase of 157
Institutional	140	increase of 140
A.M.I.A. block equal to—	30	increase of 30

Total *Journal of Insurance* circulation is 1,335.

The President reported that in the interest of conserving time he would summarize the various committee reports.

Institutional Membership

E. J. Faulkner, Chairman. It was reported that this committee had been responsible for securing 140 institutional members plus 30 memberships by the American Mutual Insurance Alliance, subscribed en bloc. Also 8 additional institutional members were secured from a special solicitation by the President. The President reported that a billing procedure had been worked out which it is hoped will minimize attrition from failure to renew.

Research Committee

John F. Adams, Chairman. The original research bibliography, covering the years 1950-59, is to be published early in 1961 in the *Journal of Insurance* issue dated Fall, 1959. The 1959-60 addenda will be published in the March 1961 issue of the *Journal of Insurance*. A new questionnaire is scheduled to be distributed in April and the full participation of the membership is urged. The committee recommends that next year's annual meeting program continue the practices started this year by scheduling (a) Current Studies in Depth—a full session with 2 or 3 full length papers and (b) a Research Round Table—an evening meeting designed for "research in progress" reports. It was reported that the number of applications for research grants had increased this year. Awards for 1961 were made to Dr. O. D. Dickerson for $750 and to Dr. Theodore Bakerman for $400. The balance in the fund is $850, which is to be carried forward plus the 1961 appropriation of $1000. Applications for grants for 1962 should be made by September 15, 1961. Committee work which is still pending or in process includes: (1) Development of a relationship between research groups of related organizations looking toward joint programs at annual meetings and joint research projects; (2) Study of a Social Insurance Award; (3) Development of a program of research design and a list of sources of financial aid for worthy research projects.

Insurance Statistics Committee

Theodore Bakerman, Chairman. This committee continues to work with the Bureau of the Census and other government offices in an attempt to revise classifications so as to make the collected data more meaningful to researchers. The committee is also inquiring into the availability and cost of particular data which may be desired by researchers in insurance. Results are hopeful but progress is necessarily slow. It is hoped that the Association will become the organization looked to for guidance by the federal statistical agencies as the spokesman regarding needed statistics in these fields.

Elizur Wright Award

Deliberations of the Executive Committee led to a postponement of a decision concerning this Award. Selection will be made by the Executive Committee and announced in the *Journal of Insurance.*

Summer Fellowship Program

Laurence J. Ackerman, Chairman. This program was conducted under new rules adopted in 1959 and most of the complaints of former years are apparently resolved. Any remaining problems should work themselves out as more experience is acquired. The program was described in detail in a report mailed to the members about the first of December.

Dossier Committee

Jack C. Keir, Chairman. The work is finished and results published in September 1960 issue of *The Journal of Insurance.* President Hedges expressed the sincere gratitude of the Association to Dr. Jack Keir and his committee for a job well done.

MDRT Foundation Grant

Arrangements have been completed for the administration of the $5,000 grant from the Million Dollar Round Table Foundation, now in hand. The grant is to be used to finance the preparation of a Case Book in Life Insurance. Authorship, ownership of royalties, revision rights, etc are to reside in the person selected to perform this task. Dan M. McGill is to head a committee to establish standards, select personnel, supervise the project and see that it is carried forward to completion.

Commission on Insurance Terminology

Davis W. Gregg, Chairman. The membership was reminded that the Commission was established in 1958. The original purpose was read. Dr. Gregg reported that much progress has been made, particularly in the area of Health Insurance. He announced the formation this year of Committees on General Insurance Terminology, Property Insurance Terminology, Pension and Profit-Sharing Terminology, and Life Insurance Terminology. A sixth committee, on Social Insurance Terminology, will be formed in 1961.

The 1960 budget was $4,000 for the work of this Commission and its committees, but only about $2,500 was spent because some committees were organized late. A budget of $7,500 for 1961 was approved by the Executive Committee. Members were reminded that it was originally planned that the Association's financing of

these committees was to be in the nature of "pump-priming" and that it was hoped that industry would take over the principal cost of the work. No outside funds have been solicited, but the Committee on Health Insurance Terminology will seek funds this year.

Committee on Incorporation and Change in Name

Laurence J. Ackerman, Chairman. The Committee survey revealed that a majority of the members were in favor of changing the name of the Association. Many suggestions for the new name were made but none was conclusive. The Executive Committee voted unanimously in favor of "The American Association of Risk and Insurance" and directed the President to submit this action to the membership for ratification. On the basis of a report by Dr. Heins relative to incorporation, the Executive Committee has directed the President to investigate the procedure and place for incorporation. He is also to investigate the cost of liability insurance.

Committee on Teaching Aids

H. J. Zoffer, Chairman. This committee prepared the life insurance kit now available. It reports that the preparation of visual aids is too costly for the committee to undertake.

NAII Journal Awards Committee

John S. Bickley, Chairman. This committee has set up standards for judging the articles and book reviews in Volume XXVII of *The Journal*. The awards for 1960 will be announced in the June, 1961, issue of *The Journal of Insurance*. The grant of $1,000 from the National Association of Independent Insurers will be divided into awards for articles and for book reviews.

International Society of Risk and Insurance

Davis W. Gregg, Chairman. Plans are going forward to establish an International Society of Risk and Insurance. This Association is one among several organizations interested in its formation. Dr. John W. Cowee has accepted responsibility to make further investigation in Europe in early 1961.

Special Committee on Collegiate Insurance Curriculum

The objectives of this proposed special committee, as approved by the Executive Committee, are: (1) to evolve curricula concepts for the future development of collegiate insurance education; (2) to prepare a statement outlining collegiate insurance curricula concepts for several different types of collegiate institutions; and (3) to publish and distribute the statement to the members of the Association and to such other parties as would be interested.

Dr. Gregg reported that the Executive Committee had authorized the activation of this proposed committee and had approved a budget of $5,000 to cover its expenses, with the understanding that efforts would be made to secure outside contributions to cover as much as possible of the cost. He reported further that J. Edward Hedges had been appointed Chairman by the Executive Committee and that tentatively a conference is scheduled to be held at Indiana

University on March 2-6, 1961 to prepare the report. The Committee is to include members of this Association, college administrators, and others having a special interest in this subject. The aims, objective, techniques, and possible results were discussed fully. Motion was made, seconded and unanimously carried that the Association proceed with this project.

Budget

The President reported that during the year the activities of the Association, exclusive of the *Journal*, have been carried on well within the income allocated to this purpose. As respects the *Journal*, income from Institutional Memberships came close to covering current costs. The College Life Insurance Company of America continues its offer to underwrite the *Journal* deficit.

Over the years the Association has accumulated a surplus of approximately $16,000. This makes it possible to budget the large Curriculum Committee and Terminology Commission expenditures this coming year. However, it is hoped that some grants will be received to apply against these expenses.

Motion was made, seconded and passed that the membership approve the actions of the Executive Committee during 1960 and the budget recommended for 1961.

Resolutions

Dan M. McGill, Chairman. Be it resolved that the members of the American Association of University Teachers of Insurance here assembled record their gratitude to:

(1) Clayton G. Hale for his continued support of the Elizur Wright Award which, through the years, has brought deserved recognition to outstanding contributions to insurance literature.

(2) The College Life Insurance Company of America whose generous financial support has helped to make possible the quarterly publication of the *Journal of Insurance*.

(3) The New York Life Insurance Company for its recurring gifts in support of the educational and research activities of the Association, for its hospitality at the annual meetings of the Association, and for the valuable and faithful services of Robert Stieglitz on the Executive Committee of the Association for three years.

(4) The Million Dollar Round Table Foundation for its gift of $5,000 to finance the preparation of a Casebook in Life Insurance.

(5) The National Association of Independent Insurers for its annual contributions both in support of the general activities of the Association and to finance awards for outstanding articles in the *Journal of Insurance*.

(6) The American Mutual Insurance Alliance for its perennial hospitality as host at one of the luncheon meetings of the Association and for the long-time participation of George Haskell in the affairs of the Association.

(7) The American Institute for Property and Liability Underwriters, Inc. and the American College of Life Underwriters for their traditional CPCU-CLU breakfast which enhances greatly the professional and social value of the annual meetings.

(8) The General American Life Insurance Company for its hospitality and the splendid luncheon address of its President, Frederic M. Peirce.

(9) Arthur W. Mason and the other members of the Local Arrangements Committee for attending to the multitude of details incident to the annual meeting.

(10) President J. Edward Hedges and the other officers for their untiring efforts on behalf of the Association.

Be it further resolved that, where appropriate, the Secretary be instructed to transmit a copy of the applicable resolution to the persons or organizations included.

The President expressed appreciation to officers, program chairman and the many committees for their conscientious work during the year.

President, J. Edward Hedges then presented the newly elected President, Davis W. Gregg, who adjourned the meeting.

Treasurer's Report
December 15, 1960

Balance, Cash on Hand, December 15, 1959			**$16,691.19**
RECEIPTS:			
Membership dues, Active and Associate[a]		$ 5,625.00	
Institutional membership dues[b]		8,650.00	
Journal advertising		1,303.08	
Sales of Journals and reprints		2,341.15	
Convention rebate[c]		260.98	
Interest on savings accounts		707.20	
Miscellaneous		10.00	
Gifts:			
New York Life Insurance Company	$2,500.00		
College Life Insurance Company of America	2,330.62		
National Association of Independent Insurers	1,000.00		
Million Dollar Round Table[d]	5,000.00		
		10,830.62	
Total Receipts			29,728.03
Total cash available			**$46,419.22**
EXPENDITURES:			
Journal printing		$10,853.69	
Honorarium to Editor		1,500.00	
Editor's expenses		72.30	
Journal and institutional membership promotion		799.02	
Postage and supplies		742.48	
Secretarial and clerical services		1,525.00	
Stationery and supplies		612.16	
Travel		1,148.54	
Telephone and telegraph		113.64	
Auditor's fee		75.00	
Convention costs		195.69	
Miscellaneous		93.84	
Committee and Commission expenses:			
Census Committee	$ 132.70		
Summer Fellowship Committee	200.00		
Insurance Terminology Commission	222.73		
Health Insurance Terminology Committee	272.16		
General Insurance Terminology Committee	315.18		
Property Insurance Terminology Committee	245.00		
		1,387.77	
Total cash payments			19,119.13
Balance, Cash on Hand in checking account and in Manhattan and Bowery Savings Banks in New York City, December 15, 1960			**$27,300.00[e]**

(a) 4/7 of these receipts were allocated to *Journal* expenses.
(b) All of these receipts were allocated to *Journal* expenses.
(c) Our share of net Convention receipts based upon number of A. A. U. T. I. registrations.
(d) To finance Life Insurance Case Book project over next two years.
(e) The books were audited by Dudley W. Curry, C. P. A., Dallas, Texas.

INSTITUTIONAL MEMBERS *

of The American Association of University Teachers of Insurance

Acacia Mutual Life Insurance Company
Aetna Insurance Company
Aetna Life Affiliated Companies
Allstate Insurance Company
America Fore Loyalty Group
American Casualty Company
American Credit Indemnity Company of New York
American Health Insurance Corporation
American Home Life Insurance Company (S.C.)
The American Insurance Company
The American Mutual Insurance Alliance†
American National Insurance Company
American United Life Insurance Company
Amicable Life Insurance Company
Austin Life Insurance Company
Bankers Life Company
Bankers Life Insurance Company of Nebraska
Berkshire Life Insurance Company
Business Men's Assurance Company of America
Capital Mutual Insurance Company
Cal-Farm Insurance Companies
California-Western States Life Insurance Company
Carolina Home Life Insurance Company
Central Life Assurance Company
Century Life Insurance Company
Combined Insurance Company of America
Connecticut General Life Insurance Company
Connecticut Mutual Life Insurance Company
Continental Casualty Company
Country Life Insurance Company
Crum and Forster
The Dominion Life Assurance Company
Durham Life Insurance Company
Empire Life and Accident Insurance Company
Employers Reinsurance Corporation
Equitable Life Assurance Society of the United States
Equitable Life Insurance Company of Iowa
Farm Bureau Life Insurance Company
Farm Bureau Life Insurance Company of Michigan
Federal Life and Casualty Company
Federal Life Insurance Company
Fidelity and Deposit Company of Maryland
Fireman's Fund Insurance Company
The Franklin Life Insurance Company
General Accident Group
General American Life Insurance Company
General Reinsurance Corporation
Glens Falls Insurance Company
Golden State Mutual Life Insurance Company
Government Employees Insurance Company
Great American Reserve Insurance Company
Great National Life Insurance Company
Great Southern Life Insurance Company
The Great-West Life Assurance Company
Guarantee Mutual Life Company
Gulf Life Insurance Company
John Hancock Mutual Life Insurance Company
Hartford Life Insurance Company
Home Life Insurance Company
Homesteaders Life Company
Independent Life and Accident Insurance Company
Indianapolis Life Insurance Company
Jefferson National Life Insurance Company
Jefferson Standard Life Insurance Company
Kansas City Life Insurance Company
Kansas Farm Life Insurance Company
Kentucky Central Life and Accident Insurance
Knights Life Insurance Company of America
Lamar Life Insurance Company
Liberty National Life Insurance Company
Life and Casualty Insurance Company of Tennessee

* Institutional membership is available to any organization which is interested in supporting the program of the Association. Dues for Institutional Members are $50 a year.

† This Association membership is taken out on behalf of its member companies and represents the equivalent of 30 separate Institutional Members.

Life Insurance Company of Georgia
The Life Insurance Company of Virginia
Lincoln Liberty Life Insurance Company
Lincoln National Life Insurance Company
The Manhattan Life Insurance Company
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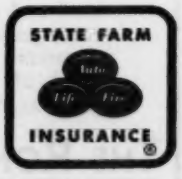

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